JB LIGHTING

SPARX 18
SPARX 30

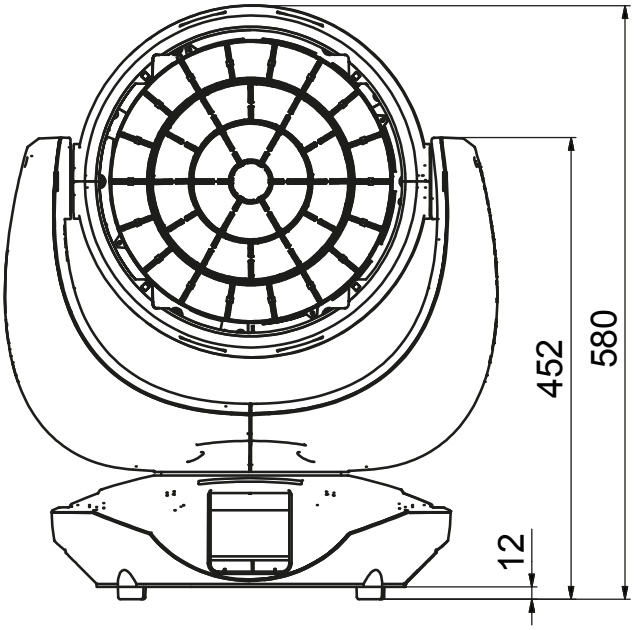
Operating instructions

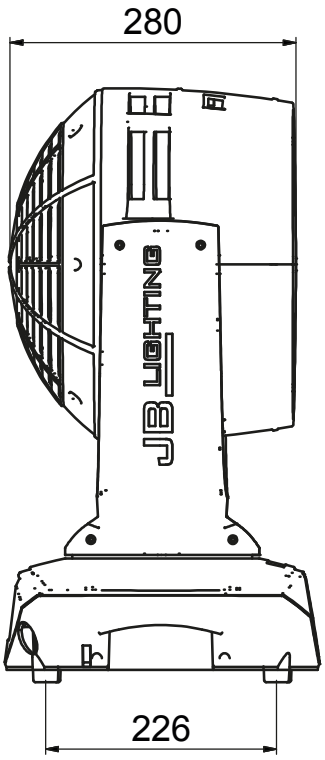
Version 1.01
Software >= 1.00

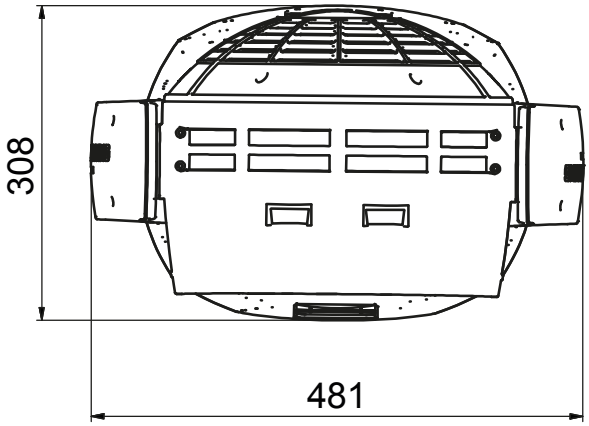
Content

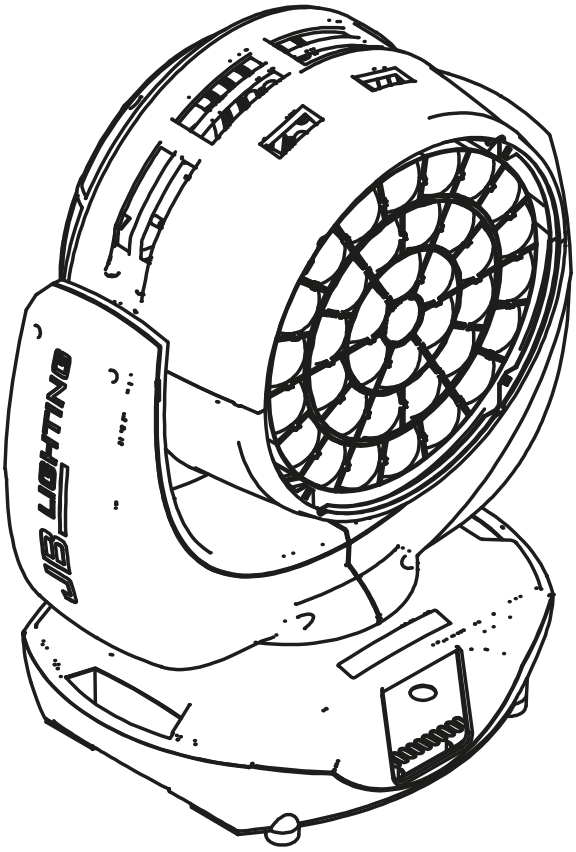
1. Dimensions and product overview

1.1 Sparx 18

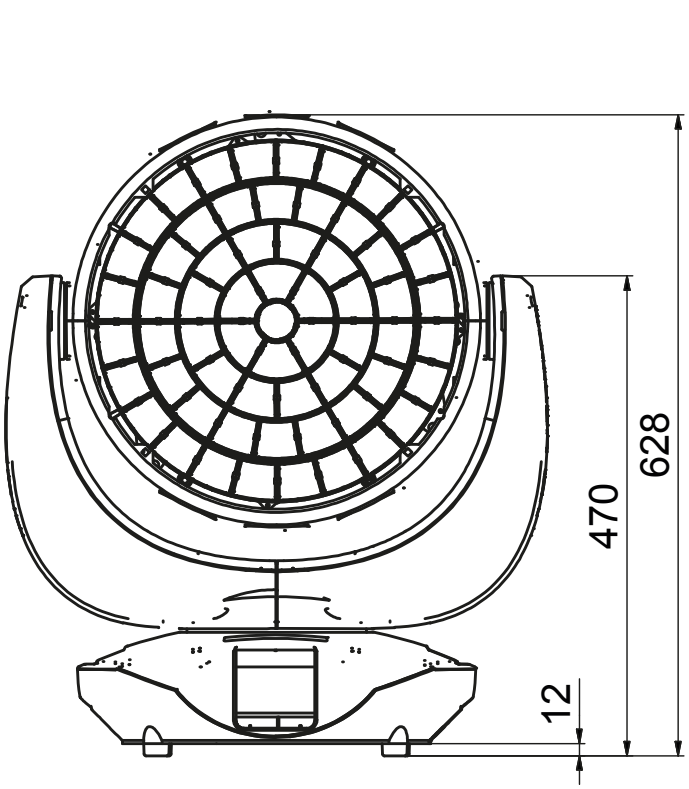


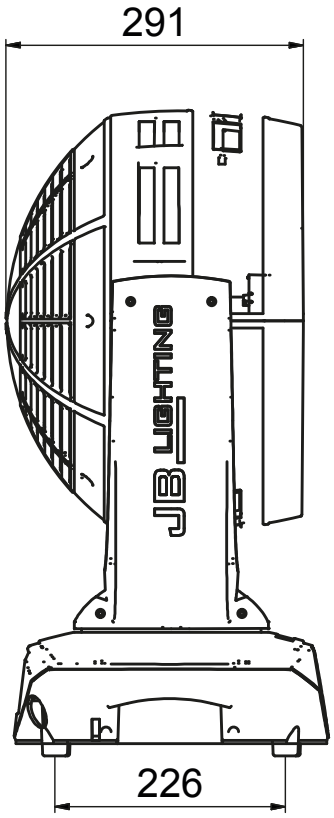


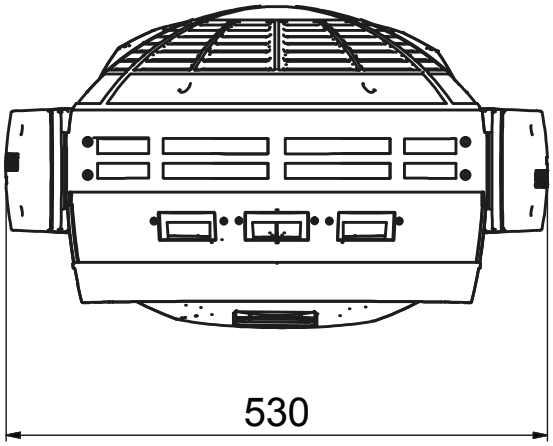


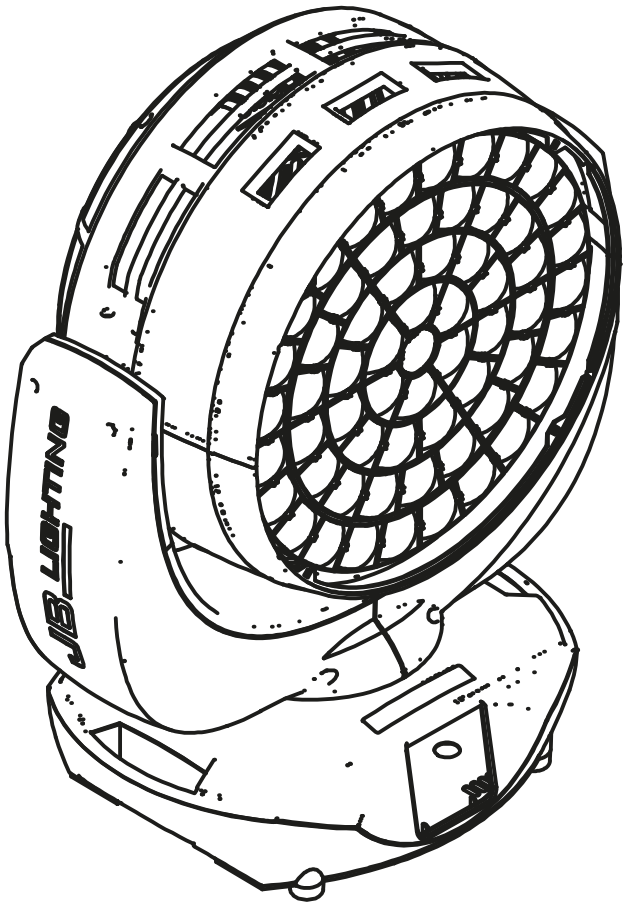


1.2 Sparx 30









2. Introduction

ATTENTION: For your own safety, please read these operating instructions carefully before first use.

This spotlight has left our company in excellent condition. To maintain this condition and to ensure safe operation, it is absolutely essential to observe the following safety instructions and warnings which are described in this operating manual.

The manufacturer accepts no liability for damage caused to the device by disregard of these operating instructions or unauthorised modifications.

Please note that damage caused by manual modifications to this unit is not covered by the warranty.

ATTENTION: This device is only suitable for professional use! Protection class IP 20 - only for use in dry environments (indoors)!

ATTENTION: JB-Lighting Lichtanlagentechnik GmbH does not authorise the use of its devices in life support systems. Life-supporting systems are systems whose purpose is to maintain or stabilise life and whose defect or malfunction may result in death or injury to persons.
The product in this manual complies with the following EU directives:
- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU

2.1 Safety instructions

ATTENTION: Disconnect the device from the power supply before opening the device. You can suffer an electrical shock from touching live parts (high voltage).

Ensure that the mains voltage to be connected is not higher than that indicated on the type plate. This device should only be operated with the power source indicated on the type plate. If you are not sure what type of power supply you have, contact your dealer or power supplier.

Always disconnect the device from the power supply before carrying out cleaning work or before replacing fuses or parts.

The mains plug must always be accessible after the spotlight has been installed. Do not overload the sockets or extension cables as this could result in fire or electric shock. Do not place any objects on the power cable. Do not install the spotlight in such a way that people can trip over or step on the power cable. Make sure that the power cable can never be crushed or damaged by sharp edges. Check the unit and the power cable from time to time.

Leave maintenance work to a qualified technician!

ATTENTION: This light corresponds to protection class I. For this reason, this spotlight must be connected to a mains socket with earthing contact.

Never connect this device to a dimmer pack.

During first use, some smoke and odour may occur. This is normal and does not necessarily mean that the device is defective.

The device becomes hot during operation. Never touch the device with bare hands during operation!

When replacing fuses, only use the same types with identical values! Only have fuse replacement carried out by a qualified technician

ATTENTION: DAMAGE TO EYES! Do not look into the light source for long periods during operation. This can be harmful to the eyes. Attention: potentially hazardous radiation - Risk group 2 per DIN EN 62471

If the device has been exposed to strong temperature fluctuations (e.g. after transport), the device must not be switched on immediately. The resulting condensation can damage your device. Leave the device switched off until it has reached room temperature.

Do not shake or knock the device. Avoid brute force during installation or operation.

This light was designed for indoor use only. Do not expose this device to rain or moisture.

When choosing a mounting location, make sure that the device is not exposed to extreme heat, moisture or dust.

Ventilation openings and slots in the head and foot of the spotlight are used for ventilation to ensure reliable operation of the device and to protect it from overheating, these openings must not be covered.

Never cover the front pane when the spotlight is in use.

The openings should never be covered with substances or other objects so that the airways are blocked.

This device must not be operated in an environment without adequate ventilation.

The device may only be operated when the housing is closed and all screws/Camlocs are firmly tightened.

The device must always be secured with an additional safety device.

Ensure that the area below the spotlight is clear during installation, alteration and removal.

ATTENTION: The distance between the light emission and the surface to be illuminated must be at least 2.0 metres.

The maximum ambient temperature of 45°C must not be exceeded.

ATTENTION: The front pane must be replaced if it is visibly damaged to the extent that its function is impaired, e.g. by cracks or deep scratches!

Do not operate the device until you have become familiar with its functions. Prevent operation by persons who are not qualified to use the device. Most damage is the result of improper operation!

Please use the original packaging or specially adapted flight cases if the device is to be transported. When using the original packaging, the tilt lock must not be closed!

ATTENTION: To avoid damaging the internal parts of the light head, never let sunlight shine directly into the front pane.

2.2 Unpacking the device

Contents of the packaging: This spotlight, two Omega brackets with bayonet fasteners, Powercon cable and these instructions once per delivery.
Open the packaging at the top and remove the inlay and the two Omega brackets. Check the Sparx 18/30 for any transport damage. This should be communicated immediately to the transport company.

3. Installation

3.1 Fitting the plug to the connection cable

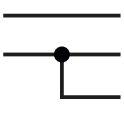
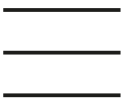
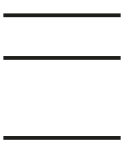
ATTENTION: Only have plugs installed by a specialist!

The Sparx 18/30 spotlight is supplied with a partially assembled power cable with the powerCON-TRUE1 plug (only the powerCON-TRUE1 plug is included in the US version).
The installation of the safety plug or the connection of the Sparx 18/30 to the power supply (100-240 Volt, 50 - 60 Hertz) must be carried out by an authorised specialist.

Connection in Germany/Europe:

Wire colour	Function	Symbol
Brown	Phase	“L”
Blue	Neutral wire	“N”
Green/Yellow	Protective earth	“PE” ⏚

Connection outside Europe:
There are different mains designs around the world. The Sparx 18/30 may only be operated on the following power supply systems:

	Mains		Sparx 18/30
2 wires, 1 phase	L N		L N PE
3 wires, 1 phase	L N L		L PE N
4 wires, 3 phases	L_1 L_2 L_3 N		L N PE

ATTENTION:
In Canada, the Sparx 18/30 may only be operated in a 2-wire, 1 phase network with a maximum voltage of 120V!

3.2 Mains connection

Sparx 18 connection values: Voltage 100-240 V, frequency 50 - 60 Hz, max. power 1300 VA
Sparx 30 connection values: Voltage 100-240 V, frequency 50 - 60 Hz, max. power 2000 VA

The electrical safety and function of the device can only be guaranteed if it is connected to a properly installed protective conductor system. It is very important that this basic safety requirement is met. If in doubt, have the electrical installation checked by a specialist. The manufacturer cannot be held responsible for damage caused by a missing or interrupted protective conductor (e.g. electric shock)! Only use the device when it is completely assembled so that no electrical components can be touched. **(Danger 100-240 V)**
If you have observed the listed points, you can plug in the devices or have them connected to the mains by a specialist.

ATTENTION: The Sparx 18/30 can light up immediately if standalone operation is activated or a DMX signal is present!

3.3 Wiring the power feed-through

ATTENTION: Only have it carried out by a specialist!

The Sparx 18/30 has a powerCON-TRUE1 out power output. Depending on the local conditions, several devices can be linked by powerCON-TRUE1 in and powerCON-TRUE1 out. Connect a maximum of two Sparx 18/30 in a row when using 230V/16A. Use an approved three-core cable with a cross-section of at least 1.5 mm². Cabling must be done with the original Neutrik coded plugs. The installation instructions of the manufacturer (www.neutrik.com) and the colour coding of the cable must be observed.

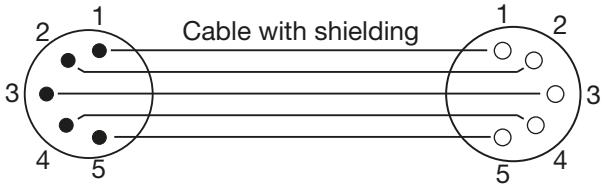
Wire colour	Function	Symbol
Brown	Phase	“L”
Blue	Neutral wire	“N”
Green/Yellow	Protective earth	„N“ ⏚

3.4 Signal connections

3.4.1 DMX cabling

The DMX cabling (signal lines) should be done with a 4-pin cable with shielding. We recommend a DMX cable (110 Ohm, 4x0.22mm²), alternatively a 2-pole micro cable can be used. The plugs and sockets are 5-pin XLR connectors, which can be purchased in specialist shops.

Pin assignment:
Pin1 = Ground/Shielding
Pin2 = DMX -
Pin3 = DMX +
Pin4 = Data out -
Pin5 = Data out +



The Sparx 18/30 has a DMX-in and DMX-out connector. Now connect the DMX output of your controller to the 1st Sparx 18/30 (controller DMX-Out -> Sparx 18/30 DMX-In). Then the 1st Sparx 18/30 to the 2nd Sparx 18/30 (Sparx 18/30 DMX-Out -> Sparx 18/30 DMX-In) and so on. In some cases, it is advisable to insert an end connector (XLR connector with a 120 Ohm resistor between pin 2 and pin 3). Whether an end connector is required depends on various factors, including the cable lengths used and the number of devices. However, as long as no problems occur in the DMX line, this is not necessary.

3.4.2 Ethernet cabling

Ethernet cabling can be done with standard network lines. The sockets on the device are Neutrik etherCON sockets. Special cables with etherCON connectors are recommended by Neutrik. The two sockets on the Sparx 18/30 are connected to each other via a switch. Up to 10 devices can be connected in series without any delay. Of course, the spotlights can also be supplied in a star configuration via an external switch.

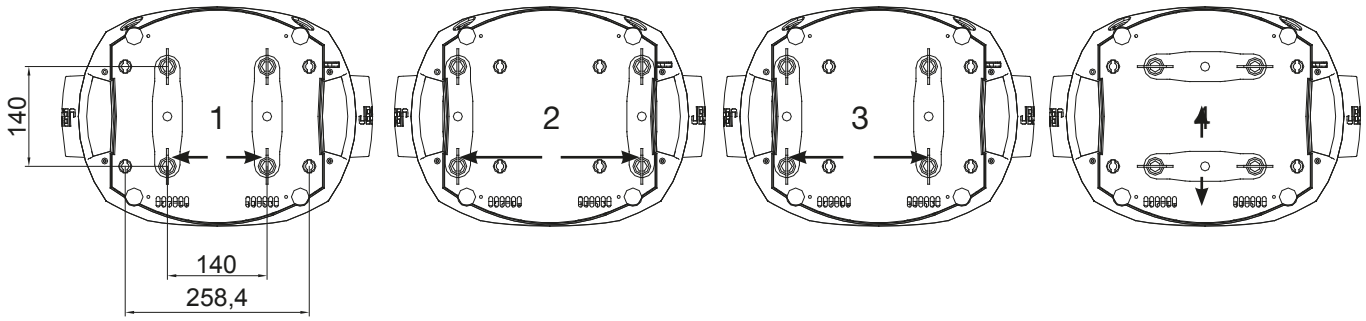
3.4.3 Wireless reception

The Sparx 18/30 is equipped with a **Lumen radio** CRMX receiver for wireless DMX as standard. The receiver can process both DMX and RDM. If a cable and wireless connection are connected to the Sparx 18/30, the cable connection has priority! The received signal can be output via DMX and Ethernet as of software version 1.5.

3.5 Mounting the devices

WARNING: Allow a distance of at least 0.5 metres from easily flammable material.

The Sparx 18/30 can either be placed or suspended from a beam system in any position.
If you place the device on the ground, only operate the device on a hard surface, as the air inlets in the foot must remain free!
To hang the device on a beam system, use the JB-Lighting Omega-Clamps with Camloc connectors. The Omega clamps can be mounted in the following four ways:



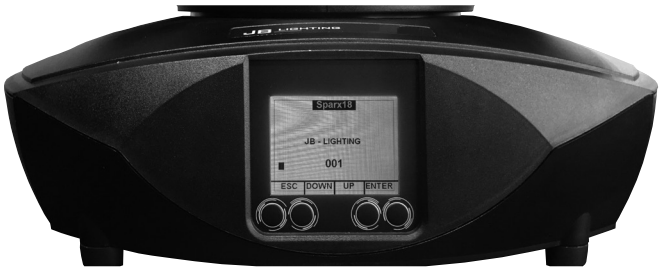
Ensure that the Camlocs engage securely. Ensure that the beam structure to which you are mounting the device complies with the safety regulations. When mounting onto a beam, the spotlight must always be secured using a safety device that complies with national regulations.

4. Control panel

The Sparx 18/30 has a graphic colour touch display that can be rotated 180° when installed in a suspended position. The display can be rotated via the touch screen from software version 1.5.

All parameters of the Sparx 18/30 can be set on the control panel.

Function and operation of the display
The main menu provides information regarding the set DMX mode and, when the wireless mode is switched on, the field strength of the associated transmitter module. "ENTER" calls up a sub-menu or confirms an input. "ESC" is used to exit a function or a menu item. "UP" and "DOWN" are used to navigate within the menu and to enter values.



Special areas can only be called up using a specific key combination. To do this, press and hold the "ENTER" key and then use the opposite "ESC" key to access the menu. To exit the function, proceed in reverse order.

This applies in the SERVICE area for the FINE ADJUST function and in the STANDALONE area for the MODIFY, RUN and REMOTE functions.

The main menu can also be locked to prevent unintentional access. It is also locked by pressing the "ENTER" key (keep it pressed) and then additionally locking it with the opposite "ESC" key.

From software 1.5 onwards, all functions can also be operated via the touch display. Starting with software 1.5, the display is enhanced to show the cooling mode and the set camera mode.

Display illumination as function display
The display illumination remains switched off during the reset. After the reset, slowly flashing display illumination indicates that there is no DMX signal.

Very fast flashing display illumination after the reset indicates that a new error was saved in the “ERROR LIST”. This occurred during the reset or during operation before it. The error, e.g. PAN TIMEOUT is also shown on the display. This error is now set to “read” automatically but remains in the “ERROR LIST”.

Fast flashing display illumination indicates an error that is still in the “ERROR LIST” but that has already been confirmed or confirmed automatically. The Sparx 18/30 only starts again without error indications once the error has been deleted from the “ERROR LIST”.

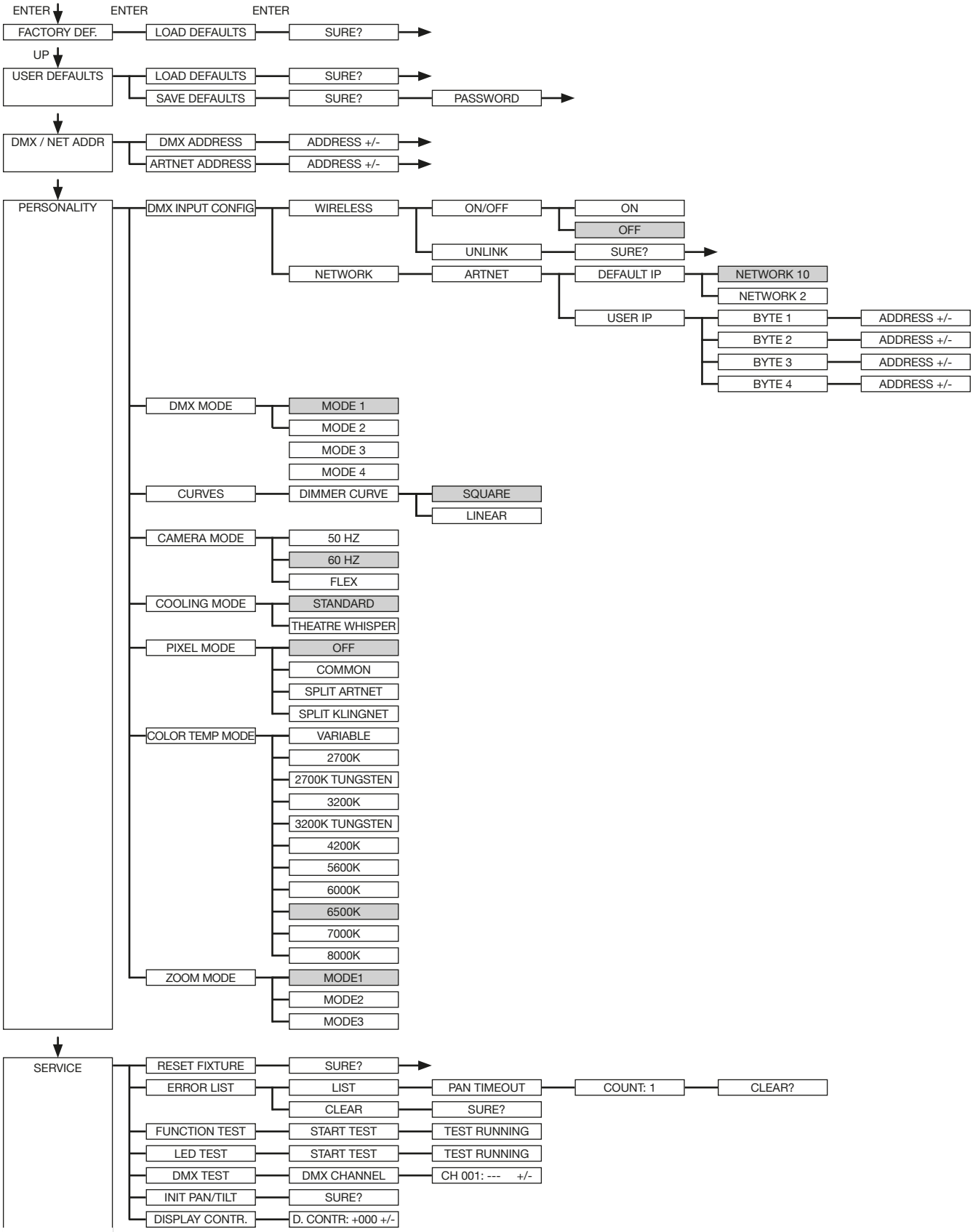
If errors occur more frequently, please contact your dealer/distributor or the JB-Lighting service department.

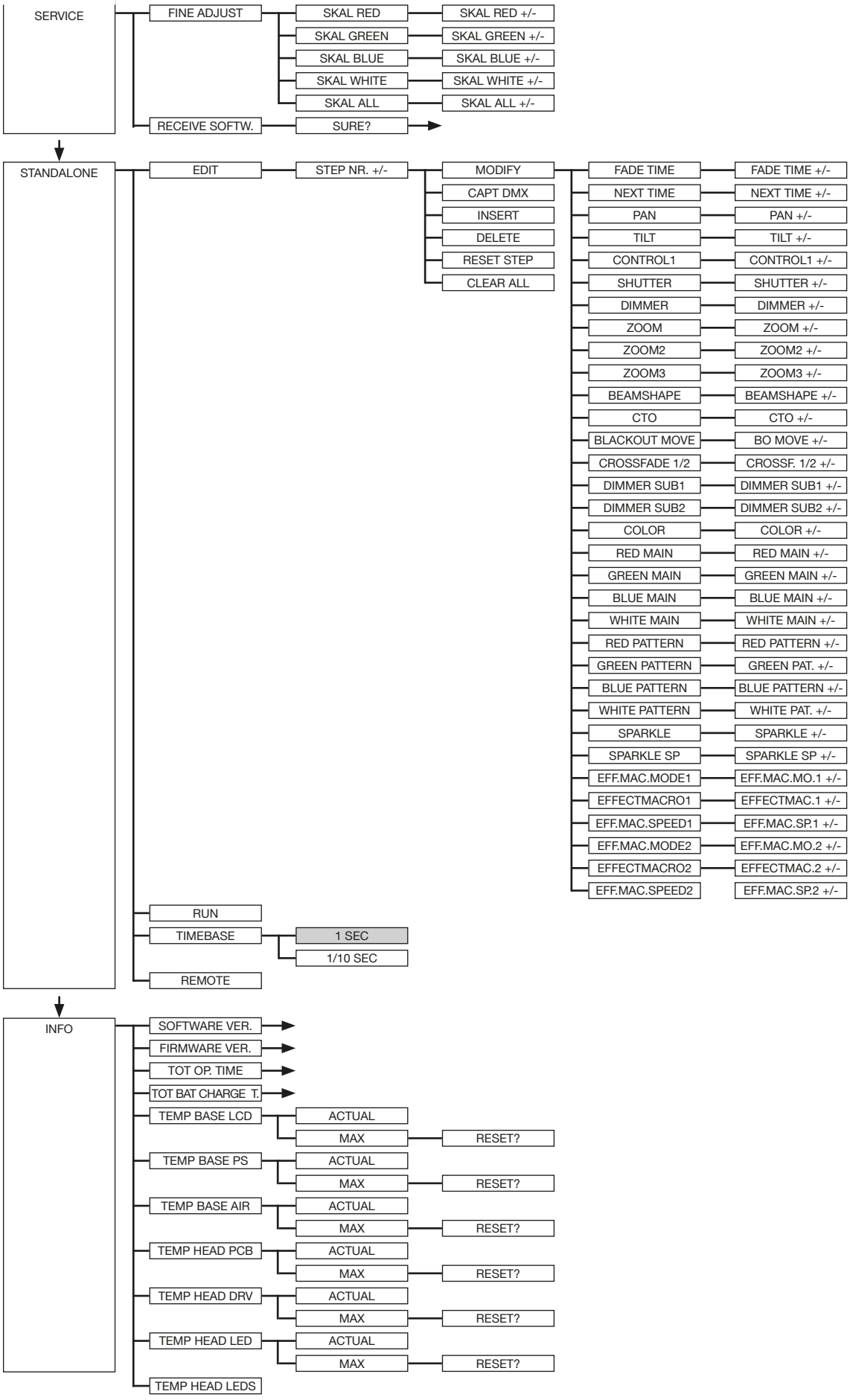
If the Sparx 18/30 receives a DMX signal, the display illumination goes out after 30 seconds.

DMX addressing
In the main menu, the DMX address can be set directly by pressing the up/down keys.

Display operation via rechargeable battery buffering
Pressing the left key below the display activates the spotlight's configuration rechargeable battery operation; the spotlight can therefore be configured without a power connection. All settings displayed in the menu can be configured, e.g. the DMX address can be set or the error list can be read.

4.1 Menu overview




SERVICE
FINE ADJUST
SKAL RED
SKAL RED +/-
SKAL GREEN
SKAL GREEN +/-
SKAL BLUE
SKAL BLUE +/-
SKAL WHITE
SKAL WHITE +/-
SKAL ALL
SKAL ALL +/-
RECEIVE SOFTW.
SURE?
STANDALONE
EDIT
STEP NR. +/-
MODIFY
CAPT DMX
INSERT
DELETE
RESET STEP
CLEAR ALL
FADE TIME
FADE TIME +/-
NEXT TIME
NEXT TIME +/-
PAN
PAN +/-
TILT
TILT +/-
CONTROL1
CONTROL1 +/-
SHUTTER
SHUTTER +/-
DIMMER
DIMMER +/-
ZOOM
ZOOM +/-
ZOOM2
ZOOM2 +/-
ZOOM3
ZOOM3 +/-
BEAMSHAPE
BEAMSHAPE +/-
CTO
CTO +/-
BLACKOUT MOVE
BO MOVE +/-
CROSSFADE 1/2
CROSSF. 1/2 +/-
DIMMER SUB1
DIMMER SUB1 +/-
DIMMER SUB2
DIMMER SUB2 +/-
COLOR
COLOR +/-
RED MAIN
RED MAIN +/-
GREEN MAIN
GREEN MAIN +/-
BLUE MAIN
BLUE MAIN +/-
WHITE MAIN
WHITE MAIN +/-
RED PATTERN
RED PATTERN +/-
GREEN PATTERN
GREEN PAT. +/-
BLUE PATTERN
BLUE PATTERN +/-
WHITE PATTERN
WHITE PAT. +/-
SPARKLE
SPARKLE +/-
SPARKLE SP
SPARKLE SP +/-
EFF.MAC.MODE1
EFF.MAC.MO.1 +/-
EFFECTMACRO1
EFFECTMAC.1 +/-
EFF.MAC.SPEED1
EFF.MAC.SP.1 +/-
EFF.MAC.MODE2
EFF.MAC.MO.2 +/-
EFFECTMACRO2
EFFECTMAC.2 +/-
EFF.MAC.SPEED2
EFF.MAC.SP.2 +/-
RUN
TIMEBASE
1 SEC
1/10 SEC
REMOTE
INFO
SOFTWARE VER.
FIRMWARE VER.
TOT OP. TIME
TOT BAT CHARGE T.
TEMP BASE LCD
ACTUAL
MAX
RESET?
TEMP BASE PS
ACTUAL
MAX
RESET?
TEMP BASE AIR
ACTUAL
MAX
RESET?
TEMP HEAD PCB
ACTUAL
MAX
RESET?
TEMP HEAD DRV
ACTUAL
MAX
RESET?
TEMP HEAD LED
ACTUAL
MAX
RESET?
TEMP HEAD LEDS

4.2 FACTORY DEFAULTS - Factory settings

To reset the Sparx 18/30 to the factory settings, go to the menu item FACTORY DEFAULTS -> LOAD DEFAULTS. After confirming the confirmation prompt SURE? with “ENTER”, all parameters are reset to the factory settings. The current white balance (chapter 6.1) is retained during the reset.

4.3 USER DEFAULTS - User settings

If the user has set the Sparx 18/30 in the PERSONALITY menu to their personal settings, these can be saved and loaded in the USER DEFAULTS menu. In order to prevent unintentional alteration of the data, you must enter the following password during the saving process: “JB-LIGHTING”.

4.4 DMX / NET ADDR - DMX addressing / Artnet addressing

DMX addressing can be carried out either directly in the display. Set the desired DMX address by pressing the “UP” or “DOWN” key. The value is confirmed with the “ENTER” key. DMX addressing can also be carried out within the menu item DMX / NET ADDR, and there under DMX ADDRESS.
To set the Artnet address, go to the menu DMX / NET ADDR and select the menu item ARTNET ADDRESS. You can now use the UP/DOWN keys to set the Artnet address. The Artnet address is displayed in the format 000.00.00. This display corresponds to:
Network.subnetwork.universe.

4.5 PERSONALITY - Personal settings

DMX INPUT CONFIG
The WIRELESS and NETWORK options are available in this menu item.

WIRELESS -> ON/OFF can be used to activate or deactivate the factory-installed radio DMX receiver module for the Lumen radio and WIRELESS -> UNLINK can be used to delete the connection to the transmitter that is connected. In order to connect the spotlight to a transmitter, set wireless to ON on the spotlight and press the connection button on the transmitter for a short time. The transmitter now searches for all spotlights on which wireless is activated and spotlights that are not connected to a transmitter. Once the Sparx 18/30 has connected to the transmitter successfully, a level indicator on the display informs you of the current reception quality. If the Sparx 18/30 is additionally connected via the DMX/etherCON sockets, these signals have priority over the radio link. You can press the ESC and DOWN key shortcut to log the spotlight out of the transmitter that is logged in.

In NETWORK -> ARTNET, the spotlight’s IP address must be selected or set for Artnet operation. Each spotlight has a one-time standard IP address. In ARTNET -> DEFAULT-IP, this can only be changed from network 10.xxx.xxx.xxx to a network 2.xxx.xxx.xxx. A customer-specific IP address can be set in ARTNET -> USER IP. This address is divided into BYTE1 to BYTE 4, which can be set one after the other.

DMX MODE
The Sparx 18/30 has a 4 DMX modes (see channel assignment). Modes 1-3 are standard modes. Mode1 can be used to operate all Sparx 18/30 parameters optimally and easily. Mode 2 is the 16-bit variant of Mode 1; most channels can be adjusted more finely here. In order to save DMX channels, the Sparx 18/30 can be reduced to 22 channels in Mode 3. Mode 4 provides extended programming options with 96 channels.

CURVES
The dimmer curve can be changed from exponential (square) to linear. The exponential curve (factory setting) causes the dimmer to fade in and out more smoothly.

CAMERA MODE
To avoid flickering during TV recordings, the Sparx 18/30 can be adjusted from 50 Hertz (PAL, Secam) to 60 Hertz (NTSC) for different camera systems. Flex mode (600Hz) is set when using different camera systems or when shooting with mobile phone cameras or similar non-professional cameras. The factory setting of the Sparx 18/30 is 60 Hertz. The changeover is also possible with the light mixing console via the control channel.

COOLING MODE
In the COOLING MODE menu item you can set the fan control, the speed of the effects and the brightness of the Sparx 18/30. The following settings are available.

THEATRE WHISPER: Brightness reduced, all effect/pan/tilt speeds are minimal and therefore run very quietly. In this mode, the spotlight runs at the same brightness up to an ambient temperature of 60°C. It is not necessary to run the fans in this mode.

STANDARD: Brightness max. LED power, all zoom/pan/tilt speeds run at full speed. From an ambient temperature of approx. 40°C, the fans run to cool the LED accordingly. The brightness remains constant up to 60° ambient temperature.

There is no danger to the life of the device in any mode, as the Sparx 18/30 has a temperature safety shutdown. In addition, the LEDs are switched off from an ambient temperature of 60°C.

4.6 STANDALONE operation

In standalone operation, up to 20 program steps can be stored in the Sparx 18/30, which can then run in an endless loop. The images can be saved in two ways. Either you program the desired DMX values directly on Sparx 18/30 and save them, or you set the DMX values via a connected DMX console and then store them in the Sparx 18/30.
The menu items MODIFY, RUN and REMOTE can only be called up using a specific key combination. To do this, press and hold “ENTER”, and also press “ESC”. Before activating these menu items, remove all other devices in the DMX line that send DMX, e.g. consoles or other spotlights that are not configured as slave devices, as otherwise damage to the DMX drivers may occur.

Programming the standalone programme on the spotlight display:
Call up the STANDALONE, EDIT menu item. In the STEP NR+/- menu item, select the desired step and you can change it and its channel parameters in the following menu items: In the MODIFY menu item, set the desired lighting scene and position and determine the individual sequence times of the steps with FADE TIME and NEXT TIME (time for the complete step).
Use INSERT to insert an additional programming step. The DMX values of the previous step are copied to the new step.
Use DELETE to delete a step. The display shows STEP NR: 1/X. Use the selection keys to move to the desired step.

With RESET STEP you reset one step to its default values (DMX 000). The display shows STEP NR: 1/X. Use the selection keys to select your step. CLEAR ALL resets the complete standalone programming steps. Under MODIFY you will find STEP1/1 again. In the STANDALONE, TIME-BASE menu item you have the possibility to change the Fade Time and Next Time from 1 second to 1/10 second.

Accept the DMX values from an external console:
To accept the DMX values of a connected console, you must first enable the Capture DMX input. To do this, go to the CAPT DMX menu item. The display now shows CAPTURE DMX 01/01, press the Enter key to switch to STARTCAPTURE. The Sparx 18/30 now reacts to the signals from the external console.

Starting the standalone program:
Call up the STANDALONE menu and navigate to the RUN submenu. Confirm the selection by pressing the key combination “ENTER” (press and hold) and simultaneously “ESC”. The display then shows: S-ALONE: 01/XX and the program runs in an endless loop.
Deactivation: Press and hold the “ESC” key and then also press "ENTER". The menu jumps back one level and RUN appears in the display.

Operation via master-slave function:
Connect the Sparx 18/30 via DMX lines and activate the REMOTE menu item for all slave devices. To do this, navigate in the STANDALONE menu to the REMOTE sub-menu. Activate the REMOTE function by pressing and holding “ENTER”, and also pressing “ESC”. The spotlight is in slave mode when the display shows the status REMOTE INACTIVE or REMOTE ACTIVE.
REMOTE INACTIVE: The Sparx 18/30 is in slave mode but does not receive a DMX signal.
REMOTE ACTIVE: The Sparx 18/30 is in slave mode and receives a DMX signal.
The master device is programmed via the MODIFY menu item and started via RUN (press and hold “ENTER” and also press “ESC”).

From Spotlight Software 1.5 the standalone operation can also be programmed via the App we offer.

4.7 INFO menu

The Info menu informs you about the respective software and firmware status, about the total operating time, the LED operating time and the different temperatures of the spotlight. The first two menu items in the Info area are the software version and the firmware version, where the software version is an important source of information for our service requests, the firmware version is a less important source of internal information. The TOT OPERATE TIME menu item can be used to show the spotlight’s total operating time, TOT LAMP TIME can be used for the total operating time of the LEDs and TOT BAT CHARGE TIME specifies the rechargeable battery's complete charging time (rechargeable battery buffering). The three times cannot be deleted!

The following temperatures are also displayed:

TEMP BASE LCD, the temperature on the display board

TEMP BASE PS, the temperature of the power supply unit

TEMP BASE AIR, the air temperature in the foot

TEMP HEAD PCB, the temperature of the head board

TEMP HEAD DRV, the temperature of the LED driver board

TEMP HEAD LED, the average temperature of the LEDs

TEMP HEAD LEDs, the individual temperatures of the LEDs

Both the current temperature and the maximum temperature are displayed. The maximum temperatures can be individually deleted.

4.8 Shortcuts - quick operation

Pressing the ESC and DOWN keys in the main menu logs the spotlight out of the programmed Lumen radio wireless transmitter. The spotlight is now ready to log in to another transmitter.

5. Channel assignment

5.1 Overview of DMX channels

The Sparx 18/30 has 3 DMX modes. The respective mode can be set in the PERSONALITY -> DMX MODE menu item. The set mode is displayed in the main menu. The individual LED control can be attached to any mode PERSONALITY -> PIXELMODE

	Mode 1(M1) 34 channels	**Mode 2 (M2) 49 channels**
Channel 1	Pan	Pan
Channel 2	Pan fine	Pan fine
Channel 3	Tilt	Tilt
Channel 4	Tilt fine	Tilt fine
Channel 5	Control channel	Control channel
Channel 6	Shutter	Shutter
Channel 7	Dimmer	Dimmer
Channel 8	Zoom (master)	Dimmer fine
Channel 9	Zoom 2	Zoom (master)
Channel 10	Zoom 3	Zoom 2
Channel 11	Beamshape	Zoom 3
Channel 12	CTO	Beamshape
Channel 13	Blackout move	Beamshape fein
Channel 14	Layer 1 / 2 crossfade	CTO
Channel 15	Dimmer sub1 (inner zone)	CTO fine
Channel 16	Dimmer sub2 (outer ring)	Blackout move
Channel 17	Color wheel emulation	Layer 1 / 2 crossfade
Channel 18	Red background color (main)	Layer 1 / 2 crossfade fine
Channel 19	Green background color (main)	Dimmer sub1 (inner zone)
Channel 20	Blue background color (main)	Dimmer sub1 fine (inner zone)
Channel 21	White background color (main)	Dimmer sub2 (outer ring)
Channel 22	Red foreground color (pattern)	Dimmer sub2 fine (outer ring)
Channel 23	Green foreground color (pattern)	Color wheel emulation
Channel 24	Blue foreground color (pattern)	Red background color (main)
Channel 25	White foreground color (pattern)	Red background color fine (main)
Channel 26	Sparkle	Green background color (main)
Channel 27	Sparkle speed	Green background color fine (main)
Channel 28	Effect macro mode Layer 1	Blue background color (main)
Channel 29	Effect macro Layer 1	Blue background color fine (main)
Channel 30	Effect macro speed Layer 1	White background color (main)
Channel 31	Effect macro mode Layer 2	White background color fine (main)
Channel 32	Effect macro Layer 2	Red foreground color (pattern)
Channel 33	Effect macro speed Layer 2	Red foreground color fine (pattern)
Channel 34	Transition pixel mode	Green foreground color (pattern)
Channel 35		Green foreground color fine (pattern)
Channel 36		Blue foreground color (pattern)
Channel 37		Blue foreground color fine (pattern)
Channel 38		White foreground color (pattern)
Channel 39		White foreground color fine (pattern)
Channel 40		Sparkle
Channel 41		Sparkle speed
Channel 42		Effect macro mode Layer 1
Channel 43		Effect macro Layer 1
Channel 44		Effect macro speed Layer 1
Channel 45		Effect macro mode Layer 2
Channel 46		Effect macro Layer 2

Mode 4 (M4) 96 channels	Single pixel control Sparx18/30 - 148/244 channels „addable“ to every mode
Pan	Red (LED group 1)
Pan fine	Green (LED group 1)
Tilt	Blue (LED group 1)
Tilt fine	White (LED group 1)
Control channel	Red (LED group 2)
Shutter	Green (LED group 2)
Dimmer	Blue (LED group 2)
Zoom (master)	White (LED group 2)
Zoom 2	Red (LED group 3)
Zoom 3	Green (LED group 3)
Beamshape	Blue (LED group 3)
CTO	White (LED group 3)
Pan/tilt speed	Red (LED group 4)
Effect speed	Green (LED group 4)
Blackout move	Blue (LED group 4)
Red glow	White (LED group 4)
Green glow	Red (LED group 5)
Blue glow	Green (LED group 5)
White glow	Blue (LED group 5)
Layer 1 / 2 crossfade	White (LED group 5)
Dimmer sub1 (inner zone)	Red (LED group 6)
Segment shutter	Green (LED group 6)
Color wheel emulation	Blue (LED group 6)
Red background color (main)	White (LED group 6)
Green background color (main)	Red (LED group 7)
Blue background color (main)	Green (LED group 7)
White background color (main)	Blue (LED group 7)
Red foreground color (pattern)	White (LED group 7)
Green foreground color (pattern)	Red (LED group 8)
Blue foreground color (pattern)	Green (LED group 8)
White foreground color (pattern)	Blue (LED group 8)
Sparkle	White (LED group 9)
Sparkle speed	Red (LED group 9)
Effect macro	Green (LED group 9)
Segment (mapping)	Blue (LED group 9)
Pattern mode	White (LED group 10)
Pattern	Red (LED group 10)
Pattern- / macro speed	Green (LED group 10)
Color spread	Blue (LED group 10)
Segment shutter	White (LED group 10)
Color wheel emulation	Red (LED group 11)
Red background color (main)	Green (LED group 11)
Green background color (main)	Blue (LED group 11)
Blue background color (main)	White (LED group 11)
White background color (main)	Red (LED group 12)
Red foreground color (pattern)	Green (LED group 12)

Mode 1(M1) 34 channels	Mode 2 (M2) 49 channels
Channel 47	Effect macro speed Layer 2
Channel 48	Transition pixel mode
Channel 49	Transition pixel mode fine
Channel 50	
Channel 51	
Channel 52	
Channel 53	
Channel 54	
Channel 55	
Channel 56	
Channel 57	
Channel 58	
Channel 59	
Channel 60	
Channel 61	
Channel 62	
Channel 63	
Channel 64	
Channel 65	
Channel 66	
Channel 67	
Channel 68	
Channel 69	
Channel 70	
Channel 71	
Channel 72	
Channel 73	
Channel 74	
Channel 75	
Channel 76	
Channel 77	
Channel 78	
Channel 79	
Channel 80	
Channel 81	
Channel 82	
Channel 83	
Channel 84	
Channel 85	
Channel 86	
Channel 87	
Channel 88	
Channel 89	
Channel 90	
Channel 91	
Channel 92	
Channel 93	
Channel 94	
Channel 95	
Channel 96	
Channel 97	

Mode 4 (M4) 96 channels	Single pixel control Sparx18/30 - 148/244 channels „addable“ to every mode
Green foreground color (pattern)	Blue (LED group 12)
Blue foreground color (pattern)	White (LED group 12)
White foreground color (pattern)	Red (LED group 13)
Sparkle	Green (LED group 13)
Sparkle speed	Blue (LED group 13)
Effect macro	White (LED group 13)
Segment (mapping)	Red (LED group 14)
Pattern mode	Green (LED group 14)
Pattern	Blue (LED group 14)
Pattern- / macro speed	White (LED group 14)
Color spread	Red (LED group 15)
Layer 1 / 2 crossfade	Green (LED group 15)
Dimmer sub2 (outer ring)	Blue (LED group 15)
Segment shutter	White (LED group 15)
Color wheel emulation	Red (LED group 16)
Red background color (main)	Green (LED group 16)
Green background color (main)	Blue (LED group 16)
Blue background color (main)	White (LED group 16)
White background color (main)	Red (LED group 17)
Red foreground color (pattern)	Green (LED group 17)
Green foreground color (pattern)	Blue (LED group 17)
Blue foreground color (pattern)	White (LED group 17)
White foreground color (pattern)	Red (LED group 18)
Sparkle	Green (LED group 18)
Sparkle speed	Blue (LED group 18)
Effect macro	White (LED group 18)
Segment (mapping)	Red (LED group 19)
Pattern mode	Green (LED group 19)
Pattern	Blue (LED group 19)
Pattern- / macro speed	White (LED group 19)
Color spread	Red (LED group 20)
Segment shutter	Green (LED group 20)
Color wheel emulation	Blue (LED group 20)
Red background color (main)	White (LED group 20)
Green background color (main)	Red (LED group 21)
Blue background color (main)	Green (LED group 21)
White background color (main)	Blue (LED group 21)
Red foreground color (pattern)	White (LED group 21)
Green foreground color (pattern)	Red (LED group 22)
Blue foreground color (pattern)	Green (LED group 22)
White foreground color (pattern)	Blue (LED group 22)
Sparkle	White (LED group 22)
Sparkle speed	Red (LED group 23)
Effect macro	Green (LED group 23)
Segment (mapping)	Blue (LED group 23)
Pattern mode	White (LED group 23)
Pattern	Red (LED group 24)
Pattern- / macro speed	Green (LED group 24)
Color spread	Blue (LED group 24)
Transition pixel mode	White (LED group 24)
	Red (LED group 25)

Mode 1(M1) 34 channels	Mode 2 (M2) 49 channels
Channel 98	
Channel 99	
Channel 100	
Channel 101	
Channel 102	
Channel 103	
Channel 104	
Channel 105	
Channel 106	
Channel 107	
Channel 108	
•	
•	
•	
•	
•	
•	
•	
•	
Channel 137	
Channel 138	
Channel 139	
Channel 140	
Channel 141	
Channel 142	
Channel 143	
Channel 144	
Channel 145	
Channel 146	
Channel 147	
Channel 148	last channel single picel control Sparx 18
•	
•	
•	
•	
•	
•	
•	
•	
Channel 233	
Channel 234	
Channel 235	
Channel 236	
Channel 237	
Channel 238	
Channel 239	
Channel 240	
Channel 241	
Channel 242	
Channel 243	
Channel 244	last channel single picel control Sparx 30

Mode 4 (M4) 96 channels	Single pixel control Sparx18/30 - 148/244 channels „addable“ to every mode
	Green (LED group 25)
	Blue (LED group 25)
	White (LED group 25)
	Red (LED group 26)
	Green (LED group 26)
	Blue (LED group 26)
	White (LED group 26)
	Red (LED group 27)
	Green (LED group 27)
	Blue (LED group 27)
	White (LED group 27)
	●
	●
	●
	●
	●
	●
	●
	●
	Red (LED group 35)
	Green (LED group 35)
	Blue (LED group 35)
	White (LED group 35)
	Red (LED group 36)
	Green (LED group 36)
	Blue (LED group 36)
	White (LED group 36)
	Red (LED group 37)
	Green (LED group 37)
	Blue (LED group 37)
	White (LED group 37)
	●
	●
	●
	●
	●
	●
	●
	●
	Red (LED group 59)
	Green (LED group 59)
	Blue (LED group 59)
	White (LED group 59)
	Red (LED group 60)
	Green (LED group 60)
	Blue (LED group 60)
	White (LED group 60)
	Red (LED group 61)
	Green (LED group 61)
	Blue (LED group 61)
	White (LED group 61)

5.2 DMX channel assignment for Mode 1 and Mode 2 - modes with optimised number of channels

M1	M2		Funktion	%	DMX
1	1		**Pan** (X) movement 561°	0,0 - 100,0	000-255
2	2		**Pan** (X) fine	0,0 - 100,0	000-255
3	3		**Tilt** (Y) movement 333°	0,0 - 100,0	000-255
4	4		**Tilt** (Y) fine	0,0 - 100,0	000-255
5	5		**Control channel** To enable uniform dimming manually via faders for all light mixing consoles, 5 different settings for the DMX smoothing are available. If the DMX signal is interrupted or too few packets are sent on some DMX consoles, the response of the Sparx 18/30 can be adjusted with this channel. The Minimum DMX Smoothing setting should work on most popular consoles. The values for DMX smoothing must be permanent. For the other values, such as cooling mode, color temperature, zoom modes, camera mode, reset, the values must be applied for 2 seconds, then the device will be permanently switched (Same setting as in the PERSONALITY menu).		
			Setting for minimal DMX smoothing		
			(A dimmed shutter sequence is possible)		
			Dimmer fade out via fader (fast - slow)	0,0 - 2,8	000-007
			Dimmer fade out via fader (slow)	3,1 - 12,2	008-031
			Setting for minimum / medium DMX smoothing		
			Dimmer fade out via fader (fast - slow)	12,5 - 15,3	032-039
			Dimmer fade out via fader (slow)	15,7 - 24,7	040-063
			Setting for medium DMX smoothing		
			Dimmer fade out via fader (fast - slow)	25,1 - 27,8	064-071
			Dimmer fade out via fader (slow)	28,2 - 37,3	072-095
			Setting for medium / maximum DMX smoothing		
			Dimmer fade out via fader (fast - slow)	37,6 - 40,4	096-103
			Dimmer fade out via fader (slow)	40,8 - 49,8	104-127
			Setting for maximum DMX smoothing		
			Dimmer fade out via fader (fast - slow)	50,2 - 52,9	128-135
			Dimmer fade out via fader (slow)	53,3 - 62,4	136-159
			Cooling mode		
			THEATRE WHISPER (dimmer and shutter closed, -> after 2 sec.)	62,7 - 62,7	160-160
			Not used	63,1 - 63,1	161-161
			STANDARD (dimmer and shutter closed, -> after 2 sec.)	63,5 - 63,5	162-162
			Not used	63,9 - 63,9	163-163
			Not used	64,3 - 64,3	164-164
			Not used	64,7 - 81,2	165-169
			Adjustment of the color temperature of the fixture		
			The change takes place after 2 seconds the DMX value is applied.		
			Color temperature 2000K (CTO 2000K - 20000K)	66,7 - 66,7	170-170
			Color temperature 2700K (CTO 2700K - 2700K	67,1 - 67,1	171-171
			Color temperature 2700K tungsten dim out	67,5 - 67,5	172-172
			Color temperature 3200K (CTO 3200K - 2700K)	67,8 - 67,8	173-173
			Color temperature 3200K tungsten dim out	68,2 - 68,2	174-174
			Color temperature 4200K (CTO 4200K - 2700K)	68,6 - 68,6	175-175
			Color temperature 5600K (CTO 5600K - 2700K)	69,0 - 69,0	176-176
			Color temperature 6000K (CTO 6000K - 2700K)	69,4 - 69,4	177-177
			Color temperature 6500K (CTO 6500K - 2700K)	69,8 - 69,8	178-178
			Color temperature 7000K (CTO 7000K - 2700K)	70,2 - 70,2	179-179
			Color temperature 8000K (CTO 8000K - 2700K)	70,6 - 70,6	180-180
			Not used	71,0 - 72,2	181-184

			Zoom modi		
			Mode 1 (after 2 seconds) Zoom / Zoom2 / Zoom3: Zoom2 / 3 TwinZoom -> Masterzoom controls to the lower zoom value (Zoom2 or 3) then takes it to the higher zoom value and then moves to both DMX255	72,5 - 72,5	185-185
			Mode 2 (after 2 seconds) Zoom / Zoom2 / Zoom3: Masterzoom „takes“ the low zoom value and moves it to the higher zoom value and then takes both to DMX255	72,9 - 72,9	186-186
			Mode 3 (after 2 seconds) Zoom / Zoom2 / Zoom3: Master zoom scales both zoom from the set value Zoom2 / Zoom3 to DMX255	73,3 - 73,3	187-187
			Mode 4 (after 2 seconds) Zoom / Zoom2 / Zoom3: Zoom3 acts as frost. Masterzoom pushes the frost intelligently	73,7 - 73,7	188-188
			Mode 5 (after 2 seconds) Zoom / Zoom2 / zoom3: Master zoom acts as a switchover between TwinZoom mode and Zoom / Frost mode. Zoom DMX 000 -> Zoom2 / 3 in Zoom / Frost mode, Zoom DMX 255 -> Zoom2 / 3 in TwinZoom mode	74,1 - 74,1	189-189
			Camera mode - Sets the LED refresh rate		
			Camera Mode, 50Hz (after 2 seconds)	81,6 - 84,3	208-215
			Camera Mode, 60Hz (after 2 seconds)	84,7 - 87,5	216-223
			Camera Mode, FLEX 600Hz (after 2 seconds)	87,8 - 90,6	224-231
			Not used	91,0 - 93,7	232-239
			Performing a complete fixture reset		
			Reset (after 2 seconds)	94,1 - 96,9	240-247
			Not used	97,3 - 100,0	248-255
6	6		**Shutter**		
			Shutter closed	0,0 - 5,9	000-015
			Shutter open	6,3 - 37,3	016-095
			Shutter pulse opening >10Hz (0,6 sec - 4,8 sec)	37,6 - 43,1	096-110
			Shutter open	43,5 - 43,5	111-111
			Fade effect with dimmer (slow - fast)	43,9 - 49,0	112-125
			Shutter open	49,4 - 49,4	126-126
			Shutter closed	49,8 - 49,8	127-127
			Shutter pulse opening <10Hz (0,6 sec - 4,8 sec)	50,2 - 55,7	128-142
			Shutter open	56,1 - 56,1	143-143
			Shutter pulse closing (0,6 sec - 4,8 sec)	56,5 - 62,0	144-158
			Shutter closed	62,4 - 62,4	159-159
			Shutter fade, 0% (0,6 sec - 4,8 sec)	62,7 - 68,2	160-174
			Shutter open	68,6 - 68,6	175-175
			Shutter fade, 100% (0,6 sec - 4,8 sec)	69,0 - 74,5	176-190
			Shutter closed	74,9 - 74,9	191-191
			Shutter random 100% (0,6 sec - 4,8 sec)	75,3 - 80,8	192-206
			Shutter open	81,2 - 81,2	207-207
			Shutter random 0% (0,6 sec - 4,8 sec)	81,6 - 87,1	208-222
			Shutter closed	87,5 - 87,5	223-223
			Shutter random fade 0% (0,6 sec - 4,8 sec)	87,8 - 93,3	224-238
			Shutter open	93,7 - 93,7	239-239
			Shutter random fade 100% (0,6 sec - 4,8 sec)	94,1 - 99,6	240-254
			Shutter open	100,0 - 100,0	255-255
7	7		**Dimmer** 0 - 100%	0,0 - 100,0	000-255
	8		**Dimmer** fine 16Bit	0,0 - 100,0	000-255
8	9		**Zoom** 0-100% (master, narrow 3° - wide 70°)	0,0 - 100,0	000-255
9	10		**Zoom 2** 0-100% (inner zone, narrow 3° - wide 70°)	0,0 - 100,0	000-255

10	11		**Zoom 3** 0-100% (outer ring respectively frost, narrow 3° - wide 70°)	0,0 - 100,0	000-255
11	12		**Beamshape positioning / rotation**		
			Beamshape positioning 0 ° -540 °	0,0 - 74,9	000-191
			Beamshape rotation right (fast - slow)	75,3 - 87,1	192-222
			Beamshape rotation stop	87,5 - 87,8	223-224
			Beamshape rotation left (slow - fast)	87,8 - 100,0	225-255
	13		**Beamshape positioning / rotation** fine 16Bit	0,0 - 100,0	000-255
12	14		**CTO** 0 - 100%	0,0 - 100,0	000-255
	15		**CTO** fine 16Bit	0,0 - 100,0	000-255
13	16		**Blackout Move**		
			Not used	0,0 - 0,0	000-000
			Selection of segments for shutter effects in link with the shutter channel	0,4 - 27,5	001-070
			Not used	27,8 - 37,3	071-095
			Blackout at pan/tilt	37,6 - 49,8	096-127
			Blackout on color change	50,2 - 62,4	128-159
			Not used	62,7 - 87,5	160-223
			Blackout at pan/tilt and color change	87,8 - 100,0	224-255
			The fade time of the dimmer can be set from slow to 5sec - max.		
14	17		**Crossfade layer 1/2** 0 - 100%	0,0 - 100,0	000-255
	18		**Crossfade layer 1/2** fein 16Bit	0,0 - 100,0	000-255
15	19		**Dimmer sub1** 0 - 100% (inner zone)	0,0 - 100,0	000-255
	20		**Dimmer sub1** fine 16Bit (inner zone)	0,0 - 100,0	000-255
16	21		**Dimmer sub2** 0 - 100% (outer ring)	0,0 - 100,0	000-255
	22		**Dimmer sub2** fine 16Bit (outer ring)	0,0 - 100,0	000-255
17	23	13	**Color wheel emulation**		
			Inactive, color mixing only via RGB	0,0 - 0,0	000-000
			White (according to color temperature setting headlights)	0,4 - 1,2	001-003
			White / red	1,6 - 2,7	004-007
			Red	3,1 - 4,3	008-011
			Red / yellow	4,7 - 5,9	012-015
			Yellow	6,3 - 7,5	016-019
			Yellow / magenta	7,8 - 9,0	020-023
			Magenta	9,4 - 10,6	024-027
			Magenta / green	11,0 - 12,2	028-031
			Green	12,5 - 13,7	032-035
			Green / orange	14,1 - 15,3	036-039
			Orange	15,7 - 16,9	040-043

			Orange / blue	17,3 - 18,4	044-047
			Blue	18,8 - 20,0	048-051
			Blue / turquoise	20,4 - 21,6	052-055
			Turquoise	22,0 - 23,1	056-059
			Turquoise / white	23,5 - 24,7	060-063
			White 2700 Kelvin	25,1 - 25,1	064-064
			White 2700 Kelvin, tungsten dimming	25,5 - 25,5	065-065
			White 3200 Kelvin	25,9 - 25,9	066-066
			White 3200 Kelvin, tungsten dimming	26,3 - 26,3	067-067
			White 4200 Kelvin	26,7 - 26,7	068-068
			White 5600 Kelvin	27,1 - 27,1	069-069
			White 6000 Kelvin	27,5 - 27,5	070-070
			White 6500 Kelvin	27,8 - 27,8	071-071
			White 7000 Kelvin	28,2 - 28,2	072-072
			White 8000 Kelvin	28,6 - 74,9	073-191
			Color change effect (fast - slow)	75,3 - 87,1	192-222
			Color change effect (stop)	87,5 - 87,8	223-224
			Color change effect (fast - slow)	88,2 - 100,0	225-255
18	24		**Red** background color (main) 0-100%	0,0 - 100,0	000-255
	25		**Red** background color (main) fine 16 Bit	0,0 - 100,0	000-255
19	26		**Green** background color (main) 0-100%	0,0 - 100,0	000-255
	27		**Green** background color (main) fine 16 Bit	0,0 - 100,0	000-255
20	28		**Blue** background color (main) 0-100%	0,0 - 100,0	000-255
	29		**Blue** background color (main) fine 16 Bit	0,0 - 100,0	000-255
21	30		**White** background color (main) 0-100%	0,0 - 100,0	000-255
	31		**White** background color (main) fine 16 Bit	0,0 - 100,0	000-255
22	32		**Red** foreground color (pattern) 0-100%	0,0 - 100,0	000-255
	33		**Red** foreground color (pattern) fine 16 Bit	0,0 - 100,0	000-255
23	34		**Green** foreground color (pattern) 0-100%	0,0 - 100,0	000-255
	35		**Green** foreground color (pattern) fine 16 Bit	0,0 - 100,0	000-255
24	36		**Blue** foreground color (pattern) 0-100%	0,0 - 100,0	000-255
	37		**Blue** foreground color (pattern) fine 16 Bit	0,0 - 100,0	000-255
25	38		**White** foreground color (pattern) 0-100%	0,0 - 100,0	000-255
	39		**White** foreground color (pattern) fine 16 Bit	0,0 - 100,0	000-255
26	40		**Sparkle - glitter effect**		
			Sparkle effect inactive	0,0 - 0,0	000-000
			Sparkle effect intensity (minimum - maximum)	0,4 - 100,0	001-255

27	41		**Sparkle speed**			
			Sparkle effect complete fixture			
			Faded (slow -> fast)	0,0	5,9	000-015
			Switched (slow -> fast)	6,3	12,2	016-031
			Sparkle effect color neutral complete fixture			
			Faded (slow -> fast)	12,5	18,4	032-047
			Switched (slow -> fast)	18,8	24,7	048-063
			Sparkle effect inner zone of the fixture			
			Faded (slow -> fast)	25,1	31,0	064-079
			Switched (slow -> fast)	31,4	37,3	080-095
			Sparkle effect color neutral inner zone of the fixture			
			Faded (slow -> fast)	37,6	43,5	096-111
			Switched (slow -> fast)	43,9	49,8	112-127
			Sparkle effect outer area of the fixture			
			Faded (slow -> fast)	50,2	56,1	128-143
			Switched (slow -> fast)	56,5	62,4	144-159
			Sparkle effect color neutral outer area of the fixture			
			Faded (slow -> fast)	62,7	68,6	160-175
			Switched (slow -> fast)	69,0	74,9	176-191
			Switched (fast)	75,3	100,0	192-255
28	42		**Effect macro mode layer 1**			
			Color set 1			
			Effects faded	0,0	0,0	000-000
			Effects switched	0,4	0,4	001-001
			Effects crossfaded (crossfade over effect macro speed DMX 000 <-> 255	0,8	0,8	002-002
			From DMX 32 color set 2, from DMX 64 color set 3, from DMX 96 color set 4			
29	43		**Effect macro layer 1**			
			Macros switched off	0,0	0,0	000-000
			Static color effects - fixture 2 colors			
			Inner zone - background color (main)			
			Outer ring - foreground color (pattern)			
			Color wheel emulation overwrites background color (main)			
			Beam fixture 2 colors segment shutter complete fixture	0,4	0,4	001-001
			Beam fixture 2 colors segment shutter inner zone	0,8	0,8	002-002
			Beam fixture 2 colors segment shutter outer ring	1,2	1,2	003-003
			Beam fixture 2 colors segment shutter off	1,6	1,6	004-004
			Color wheel emulation overwrites foreground color (pattern)			
			Beam fixture 2 colors segment shutter complete fixture	2,0	2,0	005-005
			Beam fixture 2 colors segment shutter inner zone	2,4	2,4	006-006
			Beam fixture 2 colors segment shutter outer ring	2,7	2,7	007-007
			Beam fixture 2 colors segment shutter off	3,1	3,1	008-008
			Beam fixture 2 colors segment shutter complete fixture	3,5	3,9	009-010
			Numbers 1-9, 0	4,3	7,8	011-020
			Numbers 1-9 turned 180 °	8,2	11,4	021-029
			Smiley small	11,8	11,8	030-030
			Smiley big	12,2	12,2	031-031
			Smiley small turned 180 °	12,5	12,5	032-032
			Smiley small turned 180 °	12,9	12,9	033-033
			Static beams Foreground (pattern)	13,3	14,9	034-038
			Static rings foreground color (pattern)	15,3	16,9	039-043
			Static double rings foreground color (pattern)	17,3	20,4	044-052
			Running effects - fixture inside and outside area			
			Background color (main), foreground color (pattern)			
			Color wheel emulation responds according to the selected color set - effect macro mode Layer 1			
			Pattern rings	20,8	23,1	053-059
			Pattern cake pieces small	23,5	27,1	060-069
			Pattern cake pieces big	27,5	31,0	070-079
			Pattern lines horizontally	31,4	33,7	080-086

			Pattern lines vertically	34,1 - 36,5	087-093
			Pattern lines diagonally	36,9 - 42,0	094-107
			Pattern propeller	42,4 - 44,7	108-114
			Pattern half / half vertical	45,1 - 45,5	115-116
			Pattern half / half horizontal	45,9 - 46,3	117-118
			Pattern half / half diagonal	46,7 - 47,8	119-122
			Pattern spiral	48,2 - 50,6	123-129
			Color spread effects	51,0 - 54,1	130-138
			Running Effects - Headlight inner area **Background color (Main), Foreground color (Pattern / Pattern)** **Color wheel emulation responds according to the selected color set - effect macromode Layer 1**		
			Pattern rings	54,5 - 56,9	139-145
			Pattern cake pieces small	57,3 - 64,7	146-165
			Pattern lines horizontally	65,1 - 67,5	166-172
			Pattern lines vertically	67,8 - 70,2	173-179
			Pattern lines diagonally	70,6 - 75,7	180-193
			Pattern propeller	76,1 - 78,4	194-200
			Pattern half / half vertical	78,8 - 79,2	201-202
			Pattern half / half horizontal	79,6 - 80,0	203-204
			Pattern half / half diagonal	80,4 - 81,6	205-208
			Pattern spiral	82,0 - 84,3	209-215
			Color spread effects	84,7 - 87,8	216-224
			Running effects - headlight outer ring **Background color (main), foreground color (pattern)** **Color wheel emulation responds according to the selected color set - effect macromode layer 1**		
			1 point is running	88,2 - 96,1	225-245
			2 points are running	96,5 - 97,3	246-248
			3 points are running	97,6 - 98,4	249-251
			Colorspread effects	98,8 - 100,0	252-255
30	44		**Effect macro speed 1** Forward (fast -> slow) Backwards (slow -> fast)	 0,0 - 49,8 50,2 - 100,0	 000-127 128-255
31	45		**Effect macro mode layer 2** Same assignment as effect macromode Layer 1	0,0 - 100,0	000-100
32	46		**Effect macro layer 2** Same assignment as effect macro Layer 1	0,0 - 100,0	000-100
33	47		**Effect macro speed 2** Same assignment as effect macro speed 1	0,0 - 100,0	000-100
34	48		**Transition pixel mode**	0,0 - 100,0	000-255
	49		**Transition pixel mode** fine 16Bit	0,0 - 100,0	000-255

5.3 DMX channel assignment for Mode 4 with extended programming options

M4	Funktion	%	DMX
1	**Pan** (X) movement 561°	0,0 - 100,0	000-255
2	**Pan** (X) fine	0,0 - 100,0	000-255
3	**Tilt** (Y) movement 333°	0,0 - 100,0	000-255
4	**Tilt** (Y) fine	0,0 - 100,0	000-255
5	**Control channel** To enable uniform dimming manually via faders for all light mixing consoles, 5 different settings for the DMX smoothing are available. If the DMX signal is interrupted or too few packets are sent on some DMX consoles, the response of the Sparx 18/30 can be adjusted with this channel. The Minimum DMX Smoothing setting should work on most popular consoles. The values for DMX smoothing must be permanent. For the other values, such as cooling mode, color temperature, zoom modes, camera mode, reset, the values must be applied for 2 seconds, then the device will be permanently switched (Same setting as in the PERSONALITY menu).		
	Setting for minimal DMX smoothing (A dimmed shutter sequence is possible) Dimmer fade out via fader (fast - slow) Dimmer fade out via fader (slow)	 0,0 - 2,8 3,1 - 12,2	 000-007 008-031
	Setting for minimum / medium DMX smoothing Dimmer fade out via fader (fast - slow) Dimmer fade out via fader (slow)	 12,5 - 15,3 15,7 - 24,7	 032-039 040-063
	Setting for medium DMX smoothing Dimmer fade out via fader (fast - slow) Dimmer fade out via fader (slow)	 25,1 - 27,8 28,2 - 37,3	 064-071 072-095
	Setting for medium / maximum DMX smoothing Dimmer fade out via fader (fast - slow) Dimmer fade out via fader (slow)	 37,6 - 40,4 40,8 - 49,8	 096-103 104-127
	Setting for maximum DMX smoothing Dimmer fade out via fader (fast - slow) Dimmer fade out via fader (slow)	 50,2 - 52,9 53,3 - 62,4	 128-135 136-159
	Cooling mode (dimmer and shutter closed, value changes after 2 seconds) THEATRE WHISPERNot used STANDARD Not used Not used Not used	 62,7 - 62,7 63,1 - 63,1 63,5 - 63,5 63,9 - 63,9	 160-160 161-161 162-162 163-163
	Adjustment of the color temperature of the fixture The change takes place after 2 seconds the DMX value is applied. Color temperature 2000K (CTO 2000K - 20000K) Color temperature 2700K (CTO 2700K - 2700K Color temperature 2700K tungsten dim out Color temperature 3200K (CTO 3200K - 2700K) Color temperature 3200K tungsten dim out Color temperature 4200K (CTO 4200K - 2700K) Color temperature 5600K (CTO 5600K - 2700K) Color temperature 6000K (CTO 6000K - 2700K) Color temperature 6500K (CTO 6500K - 2700K) Color temperature 7000K (CTO 7000K - 2700K) Color temperature 8000K (CTO 8000K - 2700K) Not used	64,3 - 64,3 64,7 - 81,2 66,7 - 66,7 67,1 - 67,1 67,5 - 67,5 67,8 - 67,8 68,2 - 68,2 68,6 - 68,6 69,0 - 69,0 69,4 - 69,4 69,8 - 69,8 70,2 - 70,2 70,6 - 70,6 71,0 - 72,2	164-164 165-169 170-170 171-171 172-172 173-173 174-174 175-175 176-176 177-177 178-178 179-179 180-180 181-184

	Zoom modi		
	Mode 1 (after 2 seconds) Zoom / Zoom2 / Zoom3: Zoom2 / 3 TwinZoom -> Masterzoom controls to the lower zoom value (Zoom2 or 3) then takes it to the higher zoom value and then moves to both DMX255	72,5 - 72,5	185-185
	Mode 2 (after 2 seconds) Zoom / Zoom2 / Zoom3: Masterzoom „takes“ the low zoom value and moves it to the higher zoom value and then takes both to DMX255	72,9 - 72,9	186-186
	Mode 3 (after 2 seconds) Zoom / Zoom2 / Zoom3: Master zoom scales both zoom from the set value Zoom2 / Zoom3 to DMX255	73,3 - 73,3	187-187
	Mode 4 (after 2 seconds) Zoom / Zoom2 / Zoom3: Zoom3 acts as frost. Master-zoom pushes the frost intelligently	73,7 - 73,7	188-188
	Mode 5 (after 2 seconds) Zoom / Zoom2 / zoom3: Master zoom acts as a swit-chover between TwinZoom mode and Zoom / Frost mode. Zoom DMX 000 -> Zoom2 / 3 in Zoom / Frost mode, Zoom DMX 255 -> Zoom2 / 3 in TwinZoom mode	74,1 - 74,1	189-189
	Camera mode - Sets the LED refresh rate		
	Camera Mode, 50Hz (after 2 seconds)	81,6 - 84,3	208-215
	Camera Mode, 60Hz (after 2 seconds)	84,7 - 87,5	216-223
	Camera Mode, FLEX 600Hz (after 2 seconds)	87,8 - 90,6	224-231
	Not used	91,0 - 93,7	232-239
	Performing a complete fixture reset		
	Reset (after 2 seconds)	94,1 - 96,9	240-247
	Not used	97,3 - 100,0	248-255
6	**Shutter**		
	Shutter closed	0,0 - 5,9	000-015
	Shutter open	6,3 - 37,3	016-095
	Shutter pulse opening >10Hz (0,6 sec - 4,8 sec)	37,6 - 43,1	096-110
	Shutter open	43,5 - 43,5	111-111
	Fade effect with dimmer (slow - fast)	43,9 - 49,0	112-125
	Shutter open	49,4 - 49,4	126-126
	Shutter closed	49,8 - 49,8	127-127
	Shutter pulse opening <10Hz (0,6 sec - 4,8 sec)	50,2 - 55,7	128-142
	Shutter open	56,1 - 56,1	143-143
	Shutter pulse closing (0,6 sec - 4,8 sec)	56,5 - 62,0	144-158
	Shutter closed	62,4 - 62,4	159-159
	Shutter fade, 0% (0,6 sec - 4,8 sec)	62,7 - 68,2	160-174
	Shutter open	68,6 - 68,6	175-175
	Shutter fade, 100% (0,6 sec - 4,8 sec)	69,0 - 74,5	176-190
	Shutter closed	74,9 - 74,9	191-191
	Shutter random 100% (0,6 sec - 4,8 sec)	75,3 - 80,8	192-206
	Shutter open	81,2 - 81,2	207-207
	Shutter random 0% (0,6 sec - 4,8 sec)	81,6 - 87,1	208-222
	Shutter closed	87,5 - 87,5	223-223
	Shutter random fade 0% (0,6 sec - 4,8 sec)	87,8 - 93,3	224-238
	Shutter open	93,7 - 93,7	239-239
	Shutter random fade 100% (0,6 sec - 4,8 sec)	94,1 - 99,6	240-254
	Shutter open	100,0 - 100,0	255-255
7	**Dimmer** 0 - 100%	0,0 - 100,0	000-255
8	**Zoom** 0-100% (master, narrow 3° - wide 70°)	0,0 - 100,0	000-255

9								**Zoom 2** 0-100% (inner zone, narrow 3° - wide 70°)	0,0 - 100,0	000-255
10								**Zoom 3** 0-100% (outer ring, narrow 3° - wide 70°)	0,0 - 100,0	000-255
11								**Beamshape positioning / rotation** Beamshape positioning 0 ° -540 ° Beamshape rotation right (fast - slow) Beamshape rotation stop Beamshape rotation left (slow - fast)	 0,0 - 74,9 75,3 - 87,1 87,5 - 87,8 87,8 - 100,0	 000-191 192-222 223-224 225-255
12								**CTO** 0 - 100%	0,0 - 100,0	000-255
13								**Pan/tilt speed** Movement in real time Movement delayed (fast - slow)	 0,0 - 1,2 1,6 - 100,0	 000-003 004-255
14								**Effect speed** Effects in real time Effects delayed (fast - slow)	 0,0 - 1,2 1,6 - 100,0	 000-003 004-255
15								**Blackout Move** Not used Selection of segments for shutter effects in link with the shutter channel Not used Blackout at pan/tilt Blackout on color change Not used Blackout at pan/tilt and color change The fade time of the dimmer can be set from slow to 5sec - max.	 0,0 - 0,0 0,4 - 27,5 27,8 - 37,3 37,6 - 49,8 50,2 - 62,4 62,7 - 87,5 87,8 - 100,0	 000-000 001-070 071-095 096-127 128-159 160-223 224-255
16								**Red** Glow 0-100%	0,0 - 100,0	000-255
17								**Green** Glow 0-100%	0,0 - 100,0	000-255
18								**Blue** Glow 0-100%	0,0 - 100,0	000-255
19								**White** Glow 0-100%	0,0 - 100,0	000-255
20	Inner Zone LED -19 Layer 1		Inner Zone LED 1-19 Layer 2	58	Outer Ring LED 20-37 Layer 3		Outer Ring LED 20-37 Layer 4	**Crossfade layer** 0 - 100%	0,0 - 100,0	000-255
21				59				**Dimmer sub1** 0 - 100%	0,0 - 100,0	000-255
22		40		60		78		**Segment shutter**	0,0 - 100,0	000-255
23		41		61		79		**Color wheel emulation** Inactive, color mixing only via RGB White (according to color temperature settings of fixture) White / red Red Red / yellow Yellow Yellow / magenta Magenta Magenta / green	 0,0 - 0,0 0,4 - 1,2 1,6 - 2,7 3,1 - 4,3 4,7 - 5,9 6,3 - 7,5 7,8 - 9,0 9,4 - 10,6 11,0 - 12,2	 000-000 001-003 004-007 008-011 012-015 016-019 020-023 024-027 028-031

								Green	12,5 - 13,7	056-059
								Green / orange	14,1 - 15,3	060-063
								Orange	15,7 - 16,9	064-064
								Orange / blue	17,3 - 18,4	065-065
								Blue	18,8 - 20,0	066-066
								Blue / turquoise	20,4 - 21,6	067-067
								Turquoise	22,0 - 23,1	068-068
								Turquoise / white	23,5 - 24,7	069-069
								White 2700 Kelvin	25,1 - 25,1	070-070
								White 2700 Kelvin, tungsten dimming	25,5 - 25,5	071-071
								White 3200 Kelvin	25,9 - 25,9	072-072
								White 3200 Kelvin, tungsten dimming	26,3 - 26,3	073-191
								White 4200 Kelvin	26,7 - 26,7	192-222
								White 5600 Kelvin	27,1 - 27,1	223-224
								White 6000 Kelvin	27,5 - 27,5	225-255
								White 6500 Kelvin	27,8 - 27,8	032-035
								White 7000 Kelvin	28,2 - 28,2	036-039
								White 8000 Kelvin	28,6 - 74,9	040-043
								Color change effect (fast - slow)	75,3 - 87,1	044-047
								Color change effect (stop)	87,5 - 87,8	048-051
								Color change effect (fast - slow)	88,2 - 100,0	052-055
24		42		62		80		**Red** background color (main) 0-100%	0,0 - 100,0	000-255
25		43		63		81		**Green** background color (main) 0-100%	0,0 - 100,0	000-255
26		44		64		82		**Blue** background color (main) 0-100%	0,0 - 100,0	000-255
27		45		65		83		**White** background color (main) 0-100%	0,0 - 100,0	000-255
28		46		66		84		**Red** foreground color (pattern) 0-100%	0,0 - 100,0	000-255
29		47		67		85		**Green** foreground color (pattern) 0-100%	0,0 - 100,0	000-255
30		48		68		86		**Blue** foreground color (pattern) 0-100%	0,0 - 100,0	000-255
31		49		69		87		**White** foreground color (pattern) 0-100%	0,0 - 100,0	000-255
32		50		70		88		**Sparkle - glitter effect**		
								Sparkle effect inactive	0,0 - 0,0	000-000
								Sparkle effect intensity (minimum - maximum)	0,4 - 100,0	001-255
33		51		71		89		**Sparkle speed**		
								Sparkle effect		
								Faded (slow -> fast)	0,0 - 5,9	000-015
								Switched (slow to fast)	6,3 - 12,2	016-031
								Sparkle effect color neutral		
								Faded (slow -> fast)	12,5 - 18,4	032-047
								Switched (slow to fast)	18,8 - 100,0	048-255
34		52		72		90		**Effect macro (empty)**	0,0 - 100,0	000-255
35		53		73		91		**Mapping** 0-100%	0,0 - 100,0	000-255

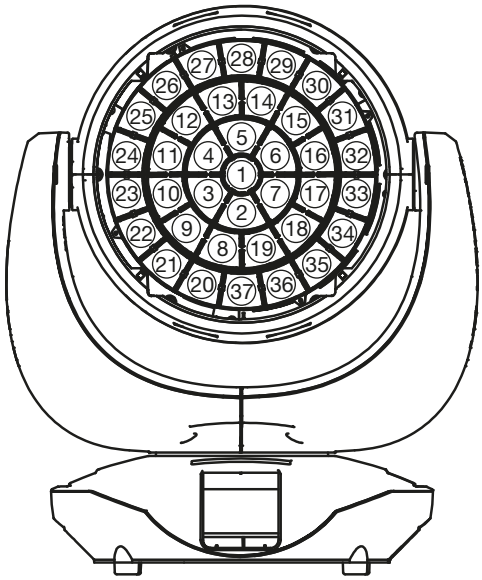
36		54		74		92		**Pattern mode** **Block 0-31: RGBW LED's of the inactive segment are deactivated.**		
								Pattern faded	0,0 - 0,0	000-000
								Pattern switch	0,4 - 0,4	001-001
								Pattern switch with cross fade clockwise	0,8 - 0,8	002-002
								Pattern switch with cross fade anti clockwise	1,2 - 1,2	003-003
								Pixel random flash fast	1,6 - 1,6	004-004
								Pixel random snap open / ramp close	2,0 - 2,0	005-005
								Pixel random flash slow	2,4 - 2,4	006-006
								Pixel random ramp open / snap close	2,7 - 2,7	007-007
								Pixel random flash fast	3,1 - 3,1	008-008
								Pixel random snap open / ramp close	3,5 - 3,5	009-009
								Pixel random flash slow	3,9 - 3,9	010-010
								Pixel random ramp open / snap close	4,3 - 4,3	011-011
								Static effects	4,7 - 12,2	012-031
								Block 32-63: RGBW LED's of the inactive segment illuminate in foreground (pattern) color		
								Pattern faded	12,5 - 12,5	032-032
								Pattern switch	12,9 - 12,9	033-033
								Pattern switch with cross fade clockwise	13,3 - 13,3	034-034
								Pattern switch with cross fade anti clockwise	13,7 - 13,7	035-035
								Pixel random flash fast	14,1 - 14,1	036-036
								Pixel random snap open / ramp close	14,5 - 14,5	037-037
								Pixel random flash slow	14,9 - 14,9	038-038
								Pixel random ramp open / snap close	15,3 - 15,3	039-039
								Pixel random flash fast	15,7 - 15,7	040-040
								Pixel random snap open / ramp close	16,1 - 16,1	041-041
								Pixel random flash slow	16,5 - 16,5	042-042
								Pixel random ramp open / snap close	16,9 - 16,9	043-043
								Static effects	17,3 - 24,7	044-063
								Block 64-95: RGBW LED's of the inactive segment illuminate in background (main) color		
								Pattern faded	25,1 - 25,1	064-064
								Pattern switch	25,5 - 25,5	065-065
								Pattern switch with cross fade clockwise	25,9 - 25,9	066-066
								Pattern switch with cross fade anti clockwise	26,3 - 26,3	067-067
								Pixel random flash fast	26,7 - 26,7	068-068
								Pixel random snap open / ramp close	27,1 - 27,1	069-069
								Pixel random flash slow	27,5 - 27,5	070-070
								Pixel random ramp open / snap close	27,8 - 27,8	071-071
								Pixel random flash fast	28,2 - 28,2	072-072
								Pixel random snap open / ramp close	28,6 - 28,6	073-073
								Pixel random flash slow	29,0 - 29,0	074-074
								Pixel random ramp open / snap close	29,4 - 29,4	075-075
								Static effects	29,8 - 29,8	076-095
								Block 96-127: RGBW LED's of the inactive segment illuminate in Glow RGBW color. Glow RGBW overlays also the active LEDs.		
								Pattern faded	37,6 - 37,6	096-096
								Pattern switch	38,0 - 38,0	097-097
								Pattern switch with cross fade clockwise	38,4 - 38,4	098-098
								Pattern switch with cross fade anti clockwise	38,8 - 38,8	099-099
								Pixel random flash fast	39,2 - 39,2	100-100
								Pixel random snap open / ramp close	39,6 - 39,6	101-101
								Pixel random flash slow	40,0 - 40,0	102-102
								Pixel random ramp open / snap close	40,4 - 40,4	103-103

								Pixel random flash fast	40,8 - 40,8	104-104
								Pixel random snap open / ramp close	41,2 - 41,2	105-105
								Pixel random flash slow	41,6 - 41,6	106-106
								Pixel random ramp open / snap close	42,0 - 42,0	107-107
								Static effects	42,4 - 49,8	108-127
								Block 128-159: RGBW LED's of the inactive segment illuminate in Glow RGBW color. Only the inactive LEDs illuminate in Glow RGBW color.		
								Pattern faded	50,2 - 50,2	128-128
								Pattern switch	50,6 - 50,6	129-129
								Pattern switch with cross fade clockwise	51,0 - 51,0	130-130
								Pattern switch with cross fade anti clockwise	51,4 - 51,4	131-131
								Pixel random flash fast	51,8 - 51,8	132-132
								Pixel random snap open / ramp close	52,2 - 52,2	133-133
								Pixel random flash slow	52,5 - 52,5	134-134
								Pixel random ramp open / snap close	52,9 - 52,9	135-135
								Pixel random flash fast	53,3 - 53,3	136-136
								Pixel random snap open / ramp close	53,7 - 53,7	137-137
								Pixel random flash slow	54,1 - 54,1	138-138
								Pixel random ramp open / snap close	54,5 - 54,5	139-139
								Static effects	54,9 - 54,9	140-159
								Block 160-191: same as block 0-31 without glow RGBW. (use together with color spread channel - working with foreground color.		
								Pattern faded	62,7 - 62,7	160-160
								Pattern switch	63,1 - 63,1	161-161
								Pattern switch with cross fade clockwise	63,5 - 63,5	162-162
								Pattern switch with cross fade anti clockwise	63,9 - 63,9	163-163
								Pixel random flash fast	64,3 - 64,3	164-164
								Pixel random snap open / ramp close	64,7 - 64,7	165-165
								Pixel random flash slow	65,1 - 65,1	166-166
								Pixel random ramp open / snap close	65,5 - 65,5	167-167
								Pixel random flash fast	65,9 - 65,9	168-168
								Pixel random snap open / ramp close	66,3 - 66,3	169-169
								Pixel random flash slow	66,7 - 66,7	170-170
								Pixel random ramp open / snap close	67,1 - 67,1	171-171
								Static effects	67,5 - 74,9	172-191
								Macros, combined effects of segment, pattern mode and pattern	75,3 - 92,2	192-235
								Not used	92,5 - 100,0	236-255
37		55		75		93		**Pattern - pattern process art**		
								(If pattern mode is set to „static" you can choose the steps of the patterns with this channel)	0,0 - 0,0	000-000
								Pattern inactiv	0,4 - 0,4	001-001
								Process art 1: 1, 2, 3, 4, 1, 2, 3, 4, Constitutiv, LED's are not holding, always start from the beginning	0,8 - 0,8	002-002
								Process art 2: 1, 2, 3, 4, 3, 2, 1, Constitutiv - degradativ, LEDs are not holding	1,2 - 1,2	003-003
								Process art 3: 1, 1+2, 1+2+3, 1+2+3+4, 1, 1+2, 1+2+3, 1+2+3+4 Constitutiv, holding start from the beginning	1,6 - 1,6	004-004
								Process art 4: 1, 1+2, 1+2+3, 1+2+3+4, 4+3+2, 4+3, 4, 0 Constitutiv, holding, degradativ adverse	2,0 - 2,0	005-005
								Process art 5: 1, 1+2, 1+2+3, 1+2+3+4, 3+2+1, 2+1, 1, 0 Constitutiv – degradativ , holding		

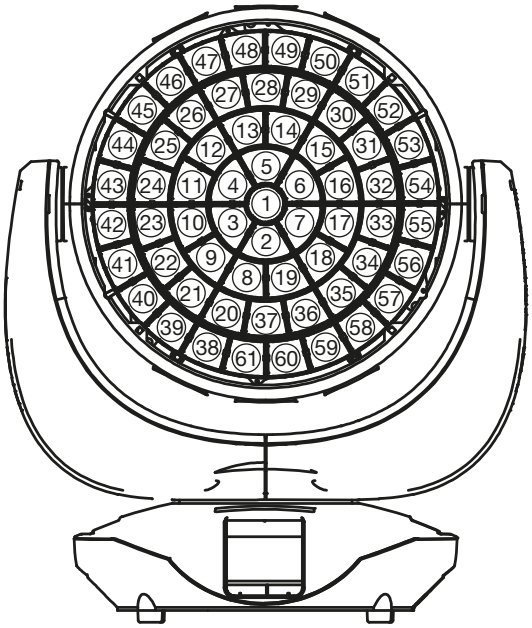
								Process art 6: 1+3, 2+4 even - odd, complete pattern **Process art 7:** 1+4, 2+3 jump first pattern - last pattern / second pattern - second to last pattern / and so on Not used Random patterns 1 - 7 Not used	2,4 - 2,4 2,7 - 2,7 3,1 - 49,8 50,2 - 52,9 53,3 - 100,0	006-006 007-007 008-127 128-135 136-255
38		56		76		94		**Pattern speed** Clockwise (fast -> slow) Stop Anti clockwise (slow -> fast)	 0,0 - 49,4 49,8 - 50,2 50,6 - 100,0	 000-126 127-128 129-255
39		57		77		95		**Color spread** Color spread off Color spread snap increasing indexable clockwise Color spread snap increasing clockwise (fast - slow) Stop Color spread snap decreasing anti clockwise (slow - fast) Color spread fade decreasing indexable anti clockwise Color spread fade decreasing anti clockwise (fast - slow) Stop Color spread fade decreasing anti clockwise (slow - fast)	 0,0 - 0,0 0,4 - 24,7 25,1 - 36,9 37,3 - 37,6 38,0 - 49,8 50,2 - 74,9 75,3 - 87,1 87,5 - 87,8 88,2 - 100,0	 000-000 001-063 064-094 095-096 097-127 128-191 192-222 223-224 225-255
96								**Transition pixel mode**	0,0 - 100,0	000-255

Arrangement of LED groups 1-37 (Sparx 18), 1-61 (Sparx30)

The pan/tilt values are set to 0°/-77°; the display shows in the same direction as the LEDs.



Sparx 18



Sparx 30

6. Tips and tricks

6.1 TwinZoom effects with 2-colour beam

The Sparx 18/30 has the option of generating 2-colour TwinZoom effects. To do this, the effects macro channel layer 1 must be set to a DMX value of between 1 and 8. Select the settings according to the segment shutter and colour wheel emulation function (see Seite 30). In order to fill the inner area with a colour, the background colour - main must be set. You can set the colour of the outer ring using the 2nd RGBW colour set - foreground colour - pattern (see Seite 29). The TwinZoom can be used to obtain fantastic beam effects (use the Zoom, Zoom 2 and Zoom 3 channels for this). To do this, set the zoom mode (see Seite 27) to zoom mode 1).

6.2 Colour mixing / CTO

The Sparx 18/30 has a colour wheel emulation channel, main RGBW, pattern RGBW, glow RGBW and a CTO channel. In order to survey the functions, they are allocated different priorities. The colour wheel channel has first priority over the main RGBW. You can only work with the RGBW colour mixtures if the colour wheel channel is set to DMX value 000. The RGBW glow channels are used to generate basic lighting in the lighting field and to then superimpose this with the RGBW. The spotlight always mixes the colours using RGB in the optimum combination of RGBW channels. The white channel can be used to generate pastel colours as soon as the RGB channel has a DMX value of less than 255.
The CTO channel can be used both in conjunction with the colour wheel emulation channel and with RGBW colour mixing. It depends on the base colour adjustment in which the spotlight is operated. -> PERSONALITY -> COLOR TEMP MODE. If a fixed colour temperature value is set, e.g. 6500K, the spotlight can be set to between 6500K and 2700K using the CTO channel. In the PERSONALITY -> COLOR TEMP MODE -> VARIABLE, the CTO channel can be used to set the spotlight to 2000K-20000K. The DMX values of the CT channel x 100 correspond to the colour value in Kelvin, DMX32 -> CTO 3200K. The CTO always runs on the black body line!

6.3 Control channel

Various spotlight functions can be permanently switched via the control channel. The spotlight's response behaviour via DMX, the cooling and volume, the repetition frequency of the LED module, the zoom modes and the background colour temperature can be switched. A spotlight reset can also be triggered.

This channel can be used to adjust the response behaviour of the Sparx 18/30 when dimming out via faders to lighting controls from various manufacturers. Set DMX 000 for rapid dimming out and DMX 007 for slow dimming out. This range is repeated five times and thus the Sparx 18/30 is adapted to the reaction time/speed of the light controllers (DMX 000-007 for “rapid” light controllers and DMX 128-135 for “slow” light controllers).

The repetition frequency (50/60/600Hz) of the LED engine can also be set.
DMX 208-215 (81.6-84.3%) Camera Mode, 50Hz (after 2 seconds)
DMX 216-223 (84.7-87.5%) Camera Mode, 60Hz (after 2 seconds)
DMX 224-231 (87.8-90.6%) Camera Mode, FLEX 600Hz (after 2 seconds)
In the range from DMX 160 to DMX 164 the “Cooling” and “Volume” operating modes can be set. To do this, the dimmer and shutter of the spotlight must be closed and the corresponding DMX value must then be transmitted for 2 seconds.
DMX 160 (62.8%): THEATRE WHISPER cooling mode
DMX 161 (63,2%): THEATRE SILENT cooling mode
DMX 162 (63,6%): STANDARD cooling mode
DMX 163 (64,0%): BOOST cooling mode
DMX 164 (64.4%): LONGLIFE cooling mode

The colour temperature is set in the DMX 170-180 range. After the value has been present for 2 seconds, the spotlight changes the colour temperature.
DMX 170 (66,7%): Colour temperature 2000K (CTO 2000K-20000K)
DMX 171 (67,1%): Colour temperature 2700K (CTO 2700K-2700K)
DMX 172 (67,5%): Colour temperature 2700K halogen dimming out
DMX 173 (67,8%): Colour temperature 3200K (CTO 3200K-2700K)
DMX 174 (68,2%): Colour temperature 3200K halogen dimming out
DMX 175 (68,6%): Colour temperature 4200K (CTO 4200K-2700K)
DMX 176 (69,0%): Colour temperature 5600K (CTO 5600K-2700K)
DMX 177 (69,4%): Colour temperature 6000K (CTO 6000K-2700K)
DMX 178 (69,8%): Colour temperature 6500K (CTO 6500K-2700K)
DMX 179 (70,2%): Colour temperature 7000K (CTO 7000K-2700K)
DMX 180 (70,6%): Colour temperature 8000K (CTO 8000K-2700K)

The zoom modes are set in the DMX 185-188 range. After the value has been present for 2 seconds, the spotlight changes the zoom mode.

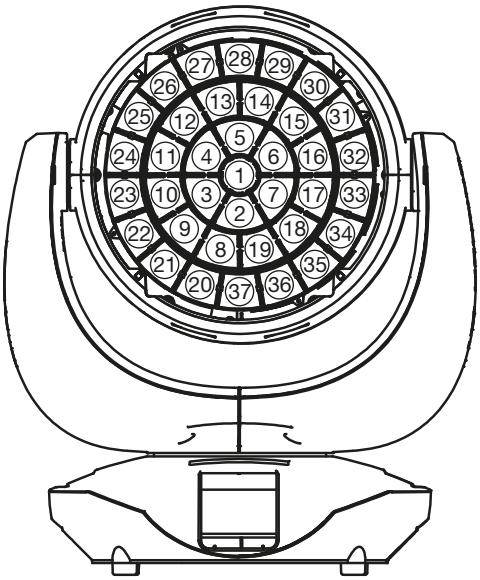
DMX 185 (72.5%) zoom mode 1: Zoom/Zoom2/Zoom3: Zoom2/3 TwinZoom -> master zoom controls until the lower zoom value (Zoom2 or 3) and then takes this along with the higher zoom value and moves with both to DMX 255.
DMX 186 (72.9%) zoom mode 2: Zoom/Zoom2/Zoom3: Master zoom “takes” the lower zoom value, moves with this to the higher zoom value and then takes both to the DMX255.
DMX 187 (73.3%) zoom mode 3: Zoom/Zoom2/Zoom3: Master zoom scales both zooms from the set Zoom2/Zoom3 value to DMX 255.
DMX 188 (73.7%) zoom mode 4: Zoom/Zoom2/Zoom3: Zoom3 works as frost. Master zoom pushes the frost along intelligently.
DMX 189 (74.1%) zoom mode 5: Zoom/Zoom2/zoom3: Master zoom works as a switchover between TwinZoom mode and zoom/frost mode. Zoom DMX 000 -> Zoom2/3 in zoom/frost mode, zoom DMX 255 -> zoom2/3 in TwinZoom mode

6.4 Sparkle / sparkle speed

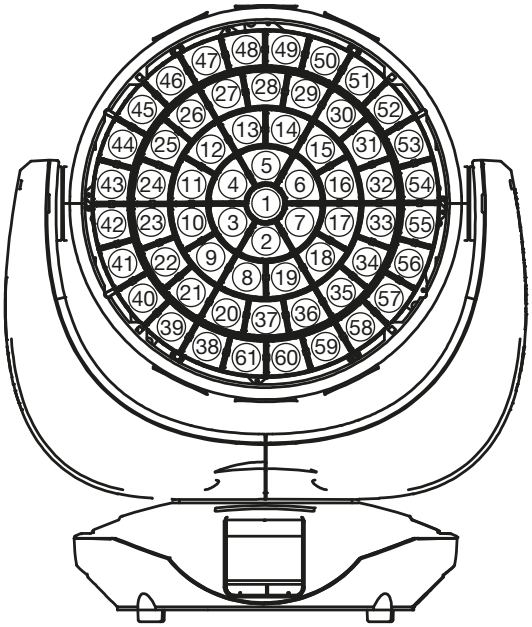
This channel gives the Sparx 18/30 its name. This can be used to create unique effects in conjunction with the zoom and dimmer. Depending on the intensity, the lighting field is split into its base colours, i.e. the individual LEDs for full colours are dimmed in/out, mixed colours split into their base colours or the effect is performed with neutral colour depending on the sparkle speed channel's setting. The sparkle speed channel can also be used to select where the sparkle effect occurs, in the inner area, outer area or complete spotlight.

6.5 Pixel mode cross-fading (transition)

The pixel mode cross-fading channel can be used to switch or cross-fade between the internal effect engine and base functions, and real LED control. If this channel sends DMX value 255, the spotlight works at 100 % in individual LED control. The following channels for LED group 1-37 (Sparx 18 - 148 channels) or LED group 1-61 (Sparx 30 - 244 channels) can be “attached” to any spotlight operation mode -> PERSONALITY -> PIXEL MODE and are used to control the individual LEDs, always in the sequence red, green, blue, white. The following illustrations show the arrangement of the LED groups when the spotlight is controlled in a standing position with PAN/TILT values 127/60 and the display shows in the same direction as the LEDs.



Sparx 18



Sparx 30

6.6 Special channels for Mode 4 with extended programming options

Mapping

This channel splits the circular pattern of the pattern channel into different LED segments.

Pattern mode

Across mapping, pattern and pattern speed, pattern mode controls whether an effect is to be faded, switched, static or runs via pixel flashes. Furthermore, a macro area helps you to program effects easily.

Pattern / pattern speed

The pattern channel generates increasing, decreasing and random patterns that are controlled via the speed channel. They are always circular if the mapping channel is not active. The pattern mode channel determines the way in which this occurs.

Colour spread

This channel generates an indexable or continuous colour spread using the effect’s foreground colour.

7. Service

7.1 Service menu

RESET FIXTURE

Upon the “Reset” command, the Sparx 18/30 will initialise to its initial values. It is the same procedure as after switching on the Sparx 18/30. If an error message appears in the display, this could be the first step to correct it.

ERROR LIST

The Sparx 18/30 stores all occurring errors internally. An error message can have a harmless cause. If you experience frequent error messages, please contact our authorised dealer or our JB-Lighting service department. All error messages are displayed with the respective frequency and can be deleted.

FUNCTION TEST

This function allows you to test all functions of the Sparx 18/30 without using a light mixer. The pan/tilt reset is deactivated in the process.

LED TEST

The Sparx 18/30 checks all LEDs individually to establish whether they are functioning. If an LED is faulty, this is indicated by an error message.

DMX TEST

This menu item is used to test the DMX input. Use the function keys to select the DMX channel to be tested. The display shows the incoming value and the Sparx 18/30 reacts accordingly at the same time.

INIT PAN TILT

The Sparx 18/30 is calibrated in the pan/tilt position at the factory. If it loses this calibration, i.e. the spotlight hits the stop or no longer finds its position or the pan/tilt boards had to be replaced, it can be re-initialised using this function. This process takes about 10 minutes and ends with a reset.

DISPLAY CONTRAST

The contrast of the LCD display may change when the temperature is too high. In this menu item the contrast can be adjusted.

FINE ADJUST

<u>White balance of the colours</u>

This white balance is performed by the manufacturer in the factory and only has to be adjusted in individual special cases. Depending on the manufacturing process, there may be brightness difference between LEDs of one type in a direct comparison. In general, all LED manufacturers specify ranges in which their products spread. Division into finely-graded classes is known as binning. The binning differences on the Sparx 18/30 are adjusted in the factory by a white balance. Adjustment to a reference spotlight ensures that Sparx 18/30 from different production cycles can be operated together.

In order to perform a white balance, the brightness of the red-green-blue-white light sources can be set individually. To do this, connect a DMX console to the spotlight and set the spotlight so that it makes a white dot with a diameter of around 2-3 metres from a distance of around 8 metres from the wall. The RGB channels must all be at DMX 255 to do this!

Now switch to the SERVICE, FINE ADJUST menu item on the spotlight. In order to access the FINE ADJUST menu item, press the key combination “ENTER” (press and hold) and “ESC”. Set the percentage value for the individual light phases in the following menu selection SKAL RED, SKAL GREEN, SKAL BLUE and SKALWHITE.

The colour portion in the light beam changes at the same time. Ensure that at least one colour value always remains at 100%, as otherwise, the total brightness will be reduced. You can set this in SKAL ALL. X/Y readjustment on the Sparx 18/30 is therefore deactivated. The current white balance is also retained during the reset to factory settings. The white balance can be used to change the basic relationship of the RGBW channels to each other. This affects both the colour wheel channel and the RGB channels. If a colour's intensity has been changed significantly using the FINE ADJUST menu, for example, the preset colours on the colour wheel channel are no longer correct.

Zoom

The zoom range is calibrated in the factory. If the spotlight loses this calibration, the optics of the Sparx 18/30 can be readjusted using the offset.

RECEIVESOFT

This area can be used to import the software for the Sparx 18/30, see „7.3 Software update"

7.2 Cleaning the device

ATTENTION:
Disconnect the device from the mains and allow to cool for at least 10 minutes!
When looking directly into the light source, use welder's goggles with weakening 4-5!

You should check the function of the fans in the head and foot at regular intervals. Above all, make sure that the air intakes and the interior of the Sparx 18/30 are free of fluff and dust.
To do this, open the fan cover on the head (4x Phillips head screws with bayonet fastener) and the base plate on the foot. You can now clean the Sparx 18/30 with a brush and a vacuum cleaner.

7.3 Software update

The Sparx 18/30 can be updated via a USB stick with micro-USB connection. To do this, copy the file directly into the root directory of the USB stick. Then press and hold the right key below the display. Now insert the Sparx 18/30 as soon as the message "Insert USB stick" appears on the display and release the key. Now plug in the USB stick on the back of the device below the signal connections and follow the instructions on the display. The Sparx 18/30 completes the software update with a reset. You will find the latest software on our homepage.

7.4 Testing of electrical equipment

According to the German Social Accident Insurance (DGUV) Regulation 3 / Regulation 4, electrical systems and equipment must be subjected to regular inspections. The fixing screw of the DMX 5-pin socket can be used as measuring point for insulation and residual current measurement. The screw is connected to all sheet metal parts via a contact washer.

7. Specifications

7.1 Sparx18

Dimensions and weight

Width	481.5 mm
Depth	307.7 mm
Height	581.0 mm
Weight	21.0 kg

Electronic system

Mains connection	100-240 V AC, 50-60Hz
Maximum power consumption	1300.0 VA
Power consumption in standby	46.5 VA

Temperature

Maximum ambient temperature	40 °C
Minimum ambient temperature	5 °C

Optics, Photometric Data

Light source	37 RGB LEDs (30W class)
Luminous intensity	23000 Lumen (RGBW) / 19000 Lumen (RGBY)

Effects

Pan	561.0°
Tilt	333.3°
Zoom	3° - 70°
Colour temperature	CTO, variable 20000K-2000K

Construction

Colour	black
Housing	PC ABS
Protection class	IP 20

Installation

Installation site	indoors
Holder	2x Omega brackets
Position	any
Minimum distance to flammable objects	1.0 m

Connections

Power input	Neutrik powerCON TRUE1 IN
Power feed-through	Neutrik powerCON TRUE1 OUT
DMX in / out USITT DMX512	5-pin XLR
Ethernet	2x Neutrik etherCON

7.2 Sparx30

Dimensions and weight

Width	530.0 mm
Depth	320.0 mm
Height	640.0 mm
Weight	26.5 kg

Electronic system

Mains connection	100-240 V AC, 50-60Hz
Maximum power consumption	2000 VA
Power consumption in standby	60 VA

Temperature

Maximum ambient temperature	40 °C
Minimum ambient temperature	5 °C

Optics, Photometric Data

Light source	61 RGBW LEDs (40W class)
Luminous intensity	38000 Lumen (RGBW) / 31000 Lumen (RGBY)

Effects

Pan	561.0°
Tilt	333.3°
Zoom	3° - 70°
Colour temperature	CTO, variable 20000K-2000K

Construction

Colour	black
Housing	PC ABS
Protection class	IP 20

Installation

Installation site	indoors
Holder	2x Omega brackets
Position	any
Minimum distance to flammable objects	1.0 m

Connections

Power input	Neutrik powerCON TRUE1 IN
Power feed-through	Neutrik powerCON TRUE1 OUT
DMX in / out USITT DMX512	5-pin XLR
Ethernet	2x Neutrik etherCON

8. Declaration of Conformity

CE

Declaration of Conformity

as defined by Directive: 2014/35/EU Low Voltage Directive,
(Directive 2014/35/EU of the European Parliament and of the Council of 26/02/2014 to approximate the laws of the Member States relating to electrical equipment designed for use within certain voltage limits)

as defined by Directive: 2014/30/EU Electromagnetic compatibility,
(Directive 2014/30/EU of the European Parliament and of the Council of 26/02/2014 to approximate the laws of the Member States relating to electromagnetic compatibility)

The manufacturer, **JB-Lighting Lichtanlagentechnik GmbH**
Sallersteigweg 15
89134 Blaustein-Wippingen

declares that the product: **Sparx 18/30**

complies with the essential protection requirements of the directives. The following standards were used for conformity assessment:

Emissions requirements in accordance with EN 55022:2010	**Information technology equipment, radio interference characteristics - Limit values and measuring methods - Limit value class A**
Conducted interference emission EN 55022:2010	Information technology equipment, radio interference characteristics - Limit values and measuring methods - Limit value class A
Radiation EN 55022:2010	Information technology equipment, radio interference characteristics - Limit values and measuring methods - Limit value class A
Harmonic currents EN 61000-3-2:2015	Electromagnetic compatibility Part 3-2: Limits, testing of harmonic currents (for devices with an input current < 16A per phase)
Flicker EN 61000-3-3:2013	Electromagnetic compatibility (EMC) Part 3-3: Limits, limitation of voltage changes, voltage fluctuations and flicker in low-voltage networks (for devices with an input current < 16A per phase)

Immunity - requirements in accordance with EN 61000-6-2:2005	**Electromagnetic compatibility (EMC) - Part 6-2: Generic standard - Immunity in industrial areas**
EN 61000-4-2:2009	Part 4-2: Immunity to static electricity discharge
EN 61000-4-3:2006 +A1:2008 +A2:2010	Part 4-3: Immunity to high-frequency electromagnetic fields
EN 61000-4-4:2012	Part 4-4: Immunity against fast transient electrical disturbances (burst)
EN 61000-4-5:2006	Part 4-5: Interference voltages against surge voltages
EN 61000-4-6:2014	Part 4-6: Immunity to conducted disturbances, induced by HF
EN 61000-4-8:2010	Part 4-8: Immunity to magnetic fields with power technology frequencies
EN 61000-4-11:2004	Part 4-11: Immunity against voltage dips, short-term interruptions and voltage fluctuations

Blaustein, 01/01/2019

Jürgen Braungardt
CEO

JB-Lighting Lichtanlagentechnik GmbH
Sallersteig 15
89134 Blaustein
Tel. +49 7304 9617-0
Fax. +49 7304 9617-99
info@jb-lighting.de
www.jb-lighting.de

JB LIGHTING