

AHORN

Operation Manual EN
Mode d'emploi FR
Gebruiksaanwijzing NL
Bedienungsanleitung DE
Manual de instrucciones ES
Manual do utilizador PT

Version: 1.0



INSTRUCTION MANUAL

Thank you very much for choosing to purchase this Focke Event Lighting Systems product. Please read this instruction manual carefully before operating the device in order to make full use of all the features it offers and to ensure your own safety.

SPECIFICATIONS

This device is radio-interference suppressed and complies with the requirements of European and national regulations. The corresponding documentation is held by the manufacturer.

BEFORE FIRST USE

- Before using the device for the first time, please check it for any transport damage. If the device shows any damage, do not use it and contact your dealer immediately.
- **Important note:** The device left the factory in perfect condition and was carefully packaged. It is important that the user strictly follows the safety instructions and warnings in this instruction manual. Damage caused by improper handling is excluded from the warranty. The dealer accepts no responsibility for damage resulting from failure to follow the instruction manual.
- Please keep this instruction manual for future reference. If the device is sold or otherwise passed on to another person, please include this instruction manual.

Check package contents:

Please check that the package contains the following items:

- Instruction manual
- AHORN
- Netzteil
- LED-Stirp Adapter

SAFETY INSTRUCTIONS

- For environmental reasons, please reuse the packaging or dispose of it properly by separating the materials correctly.
- To prevent electric shock or fire, do not expose the device to rain or moisture.
- Do not use the device outdoors or in damp rooms and environments.
- Do not allow metal objects or liquids to enter the inside of the device, as this may cause a short circuit or malfunction. If this does happen, immediately unplug the power cord and disconnect the device from the power supply.
- Operate the device only in a well-ventilated location and keep it away from flammable materials or liquids. A minimum distance of at least 50 cm must be maintained on all sides.
- Keep out of reach of children.
- Inexperienced persons should not operate the device.
- The ambient temperature must not exceed 40°C.
- Always unplug the device when it is not used for a longer period of time or when it is being serviced.
- Electrical connections should only be checked by qualified personnel.
- Do not operate the device with a damaged power supply or power cable. If the power cord or power supply is damaged, it must be replaced by the manufacturer or its distributor.
- Do not allow the power cable to come into contact with other cables.
- Do not open the device. There are no user-serviceable parts inside.
- If the device malfunctions, do not use it and contact your dealer.
- If there is any visible damage, the device must be replaced.
- For safety reasons, no unauthorized modifications may be made to the device.

DMX COMMUNICATION

The user interface of the Ahorn unit consists of a four-digit display and four buttons located beneath it, which allow the user to navigate through the various menu items. Immediately after switching on the device, a continuous menu is displayed in which the user can select the desired menu item using the arrow keys and confirm it with the “Enter” button.

The menu functions are listed in the table below. The “Setting” column shows the respective menu heading, as well as the displayed abbreviation as text and image. The “Values” column lists the possible options that can be selected in the respective menu using the arrow keys. “Short description” and “Details” explain the effect and meaning of each value.

In the case of the DMX channel modes (3ch, 8ch, 12ch, 22ch), these describe the individual channels and their functions. For other settings, the effects of the respective option are explained.

Setting	Values	Short description	Details
DMX-Address (addr) 	1–512	Sets the start address for the device in the DMX universe.	
DMX-mode (mode) 	3ch	*See the manual DMX mode description.	
	8ch		
	12ch		
	22ch		
	Fullflash 	Static color	The strip displays the selected color. To set the color, press “OK” a second time, then adjust the value up or down. (255 = white)
	Sh 1 	A static show with no automatic color changes.	The strip displays only the “twinkle” animation in the selected color and ignores incoming DMX signals. This animation is very suitable for indirect lighting in living spaces. To set the color, press “OK” a second time, then adjust the value up or

			down. (255 = white)
	Sh 2 	Show with automatic color changes	The strip displays a calm show and ignores incoming DMX signals. To configure the BPM, press “OK” a second time, then adjust the value up or down.
	Sh 3 	Intensive show	The strip displays an intensive show with occasional activation of the strobe function and ignores incoming DMX signals. To configure the BPM, press “OK” a second time, then adjust the value up or down.
Strip length (leng) 	1–1200	Sets the number of LEDs	Indicates the number of LEDs (pixels) in the strip
Resolution (res) 	30 60 144	LEDs per Meter	The animation speed is adjusted according to the resolution, so that, for example, “snake” effects run at the same speed on different resolutions. The device assumes the same resolution for all connected strips.
Brightness control (limt) 	on 		Limits the maximum brightness to ensure consistent color rendering even at full brightness. Since each LED strip is manufactured differently, this setting cannot be preconfigured at the factory. By repeatedly pressing “OK”, the value for the connected LED strip can be precisely adjusted. The default setting is 180 pixels for the recommended LED strip. To calibrate, the LED strip must:

			1. be set to maximum brightness, 2. be set to white color, 3. and the device must be configured to the correct LED strip length. The value (0–255) must then be adjusted up or down until the LED strip displays a consistent, uniform color.
		off 	Accepts all DMX values and automatic color changes without safety calculations, which results in maximum LED brightness but may also cause impure or uneven colors.
Blackout (blak) 	on 	Blackout when there is no DMX signal	The LED strip is switched off when no DMX signal is received. Technical note: Ahorn assumes the slowest DMX rate as 1 frame per second.
	Off 	Continue displaying the last DMX frame	The strip continuously displays the last received DMX signal as long as no new data is received.
Display On/Off (dili) 	on 	Display remains permanently on	The display remains permanently lit.
	off 	The display turns off after inactivity	The display turns off if no button is pressed for 10 seconds. It turns back on when a button is pressed. This setting has no effect on DMX or the LED strip.
Display orientation (dior) 		Pressing Enter on this page flips the display, allowing Ahorn to be mounted upside down.	
Firmware version (vers)		The firmware version is displayed as three numbers (e.g., “1.2.3”).	

	
Factory settings (dflt) 	Resets all settings to factory defaults. For safety, five button presses are required to reset the device. (The dots below/above the digits indicate a progress indicator.)

DMX Modi

Die nachfolgende Tabelle listet die ***manuellen*** DMX Modi und deren Kanäle auf.

Mode	Channel	Description
8ch 	Master	Controls the overall brightness of the strip.
	Foreground color	Sets the hue of the foreground animation in the HSV/HSB color space.
	Foreground animation	Selects the foreground animation. *See the animation descriptions for more information.
	Shutter	Controls the strobe effect. Higher values slow down the strobing; 0–47 opens the shutter (no strobe).
	BPM	Stellt die Beats pro Minute für Vorder- und Hintergrund-Animationen ein. (Alles unter 11 bpm wird auf 11 aufgerundet)
	Background color	Sets the beats per minute for foreground and background animations. (Any value below 11 BPM is rounded up to 11.)
	Background animation	Selects the background animation. *See the animation descriptions for more information.
	Animation modifier	Adjusts the foreground animation; the effect depends on the animation type.
12ch	Master	Controls the overall brightness of the strip.
	Shutter	Controls the strobe effect. Higher values slow down the strobing; 0–47 opens the shutter (no

		strobe).
	Foreground color	Sets the hue of the foreground animation in the HSV/HSB color space.
	Foreground animation	Selects the foreground animation. *See the animation descriptions for more information.
	Foreground animation modifier	Fine-tunes the selected animation; higher values generally increase the intensity of the animation (effect varies depending on the animation).
	Foreground BPM	Sets the beats per minute for the foreground animation.
	Foreground animation speed	Adjusts the speed of the selected animation; higher values increase the speed (effect varies depending on the animation).
	Background color	Sets the hue of the background animation in the HSV/HSB color space.
	Background animation	Selects the background animation. *See the animation descriptions for more information.
	Background animation modifier	Fine-tuning of the selected background animation.
	Background BPM	Sets the beats per minute for the background animation.
	Background animation speed	Adjusts the speed of the selected animation; higher values increase the speed (effect varies depending on the animation).
22ch 	Master	Controls the overall brightness of the strip.
	Shutter	Controls the strobe effect. Higher values slow down the strobing; 0–47 opens the shutter (no strobe).
	Foreground red	Foreground red channel (RGB color space).
	Foreground green	Foreground green channel (RGB color space).
	Foreground blue	Foreground blue channel (RGB color space).
	Foreground color transition	0–128: Individual mode (each animation uses its own color); 129–255: Uniform mode (all pixels use the same color).
	Foreground animation	Selects the foreground animation. *See the animation descriptions for more information.
	Foreground animation	Fine-tunes the foreground animation; higher

	modifier	values generally increase the intensity of the animation (effect varies depending on the animation).
	Foreground animation speed	Adjusts the speed of the selected animation; higher values increase the speed (effect varies depending on the animation).
	Foreground animation transition	0–128: Smooth mode (the layer is not cleared when switching animations); 129–255: Instant mode (the layer is cleared before the next animation starts).
	Foreground BPM	Sets the beats per minute for the foreground animation.
	Foreground beat trigger	Manually triggers a beat. Used when an external controller provides BPM/rhythm and Ahorn should follow it. The beat is triggered when the channel value exceeds 128. Note: Set the BPM channel to 0 when using the beat trigger to avoid conflicts.
	Background red	Background red channel (same as foreground).
	Background green	Background green channel (same as foreground).
	Background blue	Background blue channel (same as foreground).
	Background color transition	Controls the color transition for the background animation.
	Background animation	Selects the background animation. *See the animation descriptions for more information.
	Background animation modifier	Fine-tunes the selected background animation.
	Background animation speed	Adjusts the speed of the selected background animation.
	Background animation transition	Switches between smooth and instant transitions of the background animation.
	Background BPM	Sets the beats per minute for the background animation.
	Background beat trigger	Manually triggers a beat for the background animation.

EXPLANATION OF ALL ANIMATIONS

All animations that can be selected via the corresponding DMX channel are listed below along with a description.

Channel value	Name	Short description
0	-	-
1–20	Wave	Slow wave animation that rolls from bottom to top.
21–40	Snakes DU	Snakes move from bottom to top.
41–50	Snakes SL	Snakes appear at random positions and move outward.
51–70	Short-lived snakes	Snakes start in the center and move outward.
71–80	Snakes MO	Snakes start in the center and move outward.
81–100	Snakes OM	Snakes start at the outside and move toward the center.
101–120	Snakes UD	Snakes move from top to bottom.
121–125	FollowMeWave	Wave animation that does not run automatically, but instead reflects the position of the animation modifier.
126–130	Fading Blocks	Randomly appearing blocks that slowly fade out.
131–135	Impact Blocks	Randomly appearing blocks with particles that emerge from the inside outward and then fade out together.
136–150	FollowMeWaveform	Block animation that does not run automatically, but instead reflects the position of the animation modifier. The brightness of individual pixels changes with each beat. Die Helligkeit von einzelnen Pixeln verändert sich mit jedem Beats.
151–189	Sparkle	Small particles fade in and out.
190	CalmBlocks	Blocks fade in slowly, imitate a vibrato effect, and fade out again after a certain time.
191–210	Fullflash	The entire LED strip takes on a single color.
211–220	I Fill	The LED strip is filled with a color from top and bottom toward the center. The fill level depends on the animation modifier.
221–230	BU Fill	The LED strip is filled with a color from bottom to top. The fill level depends on the animation modifier.
231–240	O Fill	The LED strip is filled with a color from the center outward. The fill level depends on the animation modifier.
241–250	P Fill	The LED strip is filled with a color from multiple points like a prism. The fill level depends on the animation modifier.
251–255	FollowMeBlock	A block whose position is determined by the animation modifier and does not move automatically.

Note: The device turns on the dot at the far right of the display when DMX is being received, and

turns it off when no valid DMX signal can be detected.

SAVE

Ahorn automatically saves all settings. Depending on usage, the automatic save may occur up to 5 seconds after the last button press. Please wait 5 seconds after the last button press before switching off the device. All saved settings will be restored after a power loss.

ELECTRICAL INSTALLATION

A tutorial for the electrical installation is available on our website:

-- <https://focke-els.de/pages/ahorn-information> --

Plug the power supply into a power outlet and into the Ahorn unit. Make sure that the Ahorn ON/OFF switch is set to OFF at all times during this process.

Next, connect the LED strip. To do this, plug the LED strip into the supplied adapter and then connect the adapter to the Ahorn unit.

IMPORTANT:

There are a few things to keep in mind here.

- If the LED strip has more than 180 LEDs, the supplied power supply may no longer provide enough power, and some LEDs may differ from the selected color. To prevent this, there are two possible solutions.

1. Enable the automatic dimming function on the Ahorn. Depending on the setting level, Ahorn dims the LED strip so that it consumes less power. The LED strip will therefore become slightly darker, but it will not deviate from the selected colors. With this setting, it is possible to control up to 400 LEDs without an external power supply. Brightness loss will only occur when the strip consumes a lot of power, for example when it is set to very high brightness.
2. Install an external power supply. For this, a 5-volt DC power supply is required. Depending on the length of the LED strip, a power supply with more or fewer amps will be needed. One power supply can also be used for multiple LED strips. In this case, however, the "LED +" connection from the Ahorn must be disconnected so that the external power supply is not directly connected to the Ahorn. To do this, loosen the screw on the green connector of the Ahorn and disconnect the cable connected to "LED +" from the Ahorn.

Since the conductors inside an LED strip are very small, the power supply of an LED strip does not depend only on the strength of the power source. If the strip is longer than 5 meters, it becomes extremely difficult to provide sufficient voltage to the LEDs at the far end of the strip.

It is therefore important to install an additional power supply connection at the far end of the LED strip so that all LEDs receive sufficient power. If the LED strip is 10 meters long, it is also possible to add a power source in the middle of the strip, or to use an installation where a single power supply is connected to both ends of the strip.

TROUBLESHOOTING

Your Ahorn no longer turns on.

- Make sure that the power supply is plugged into a working power outlet.
- Make sure that the power supply is firmly plugged into your Ahorn.
- Make sure that the toggle switch is set to ON.
- If all of this has been checked, sometimes the buttons need to be pressed for operation in order to turn the display on. If the display shows anything, the Ahorn is on.
- If necessary, press and hold the "Menu" button for 15–20 seconds to reset the Ahorn to factory settings.
- If none of this has worked, please contact us via our website.

LED strip shows nothing.

- In the "Mode" menu, set it to "SH 3" so that the Ahorn displays a show.
- If the LED strip is not displaying anything in DMX mode, check the address and verify the DMX settings.
- Press and hold the "Menu" button for 15–20 seconds to reset the Ahorn to factory settings.
- Gently wiggle all cables and connections to check for a loose contact. Once the faulty area has been identified, do not move it further once it is working, and contact us via our website.
- If necessary, press and hold the "Menu" button for 15–20 seconds to reset the Ahorn to factory settings.
- Use a flat-head screwdriver to loosen the screw terminals on the green connector of the Ahorn and then tighten them again so that the white cable is connected to "–", the green cable in the middle to "D" (data), and the red cable to "+".
- It may also be that the polarity of the LED strip is different from that of the original Focke LED strip if a different one is used. In this case, the cables at the "+" and "–" connections on the green connector of the adapter must be swapped.
- If none of this has worked, please contact us via our website.

LEDs at the far end of the LED strip sometimes do not display bright colors clearly.

- Watch the "Quick guide" video, enable the "limit" setting if necessary, or carefully read the electrical installation instructions.

The display shows unexpected behavior.

- Press the "Menu" (also "Back") button a few times to return to the start of the menu.
- Press and hold the "Menu" button for 15–20 seconds to reset the Ahorn to factory settings.
- If none of this has worked, please contact us via our website.

MAINTENANCE AND SERVICING

- Turn off the device, unplug the power cable, and wait until it has cooled down.

During maintenance, the following points must be observed in particular:

- The power supply and cables must always be in perfect condition and must be replaced even if they show the smallest signs of damage.
- Always keep the device dry.
- The device must never be cleaned with moisture.
 - Dust with a soft cloth.

DISPOSAL OF THE DEVICE

This device must not be disposed of with household waste. Please dispose of it properly in accordance with the WEEE Directive 2012/19/EU.

Please ask your local municipality or specialist retailer for suitable collection and return points.



TECHNICAL DETAILS

Mains voltage: AC 230V, 50Hz
Max. Power consumption: 5A
DMX Connections: 3-pin XLR Connector / socket
Compatible LED types: WS2811 (5V); WS2812; WS2812b; WS2813 (3Pin); SK6812
Weight:
Housing dimensions: 133mm x 73mm x 46,6mm (W x L x H)

Technical changes may be made without prior notice.

You can download the latest version of this user manual from our website:

<https://focke-els.de/>