

# LEDCON XL

EASY LIGHT CONTROLLER



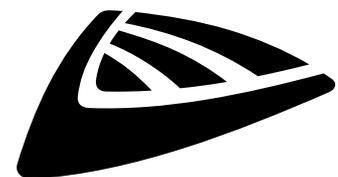
## ENGLISH

### Operation Manual

Other languages can be downloaded from:  
[WWW.JB-SYSTEMS.EU](http://WWW.JB-SYSTEMS.EU)



Version: 1.0



**JB SYSTEMS**



### **EN - DISPOSAL OF THE DEVICE**

Dispose of the unit and used batteries in an environment friendly manner according to your country regulations.

### **FR - DÉCLASSER L'APPAREIL**

Débarrassez-vous de l'appareil et des piles usagées de manière écologique conformément aux dispositions légales de votre pays.

### **NL - VERWIJDEREN VAN HET APPARAAT**

Verwijder het toestel en de gebruikte batterijen op een milieuvriendelijke manier conform de in uw land geldende voorschriften.

### **DU - ENTSORGUNG DES GERÄTS**

Entsorgen Sie das Gerät und die Batterien auf umweltfreundliche Art und Weise gemäß den Vorschriften Ihres Landes.

### **ES - DESHACERSE DEL APARATO**

Reciclar el aparato y pilas usadas de forma ecologica conforme a las disposiciones legales de su país.

### **PT - COMO DESFAZER-SE DA UNIDADE**

Tente reciclar a unidade e as pilhas usadas respeitando o ambiente e em conformidade com as normas vigentes no seu país.

# OPERATION MANUAL

Thank you for buying this JB Systems® product. To take full advantage of all possibilities, please read these operating instructions very carefully.

## FEATURES

- This LEDCON-XL is probably THE controller you were always dreaming of.
  - Preprogrammed colors, fades and chases for almost ALL types of LED projectors
  - 8 extra faders to control your light effects, foggers, moving heads with 4/5 MSL mode, etc.
  - DMX input with merger function to connect any extra controller on the same DMX line
  - Standard 19" rack format so the unit can be fixed in our Controller Case 3U
- The projector control section is a more performant version of our famous LEDCON-02 Mk2:
  - 4 or 8 channel LED light modulator with integrated, speed or music controlled, chases.
  - For each of the 4 or 8 channels, you can select the DMX setup of the projector you are using. (RGB, RGBW, RGBWA, etc.) so the unit becomes compatible with almost any LED projector that is available on the market !
  - Each of these channels can be switched on/off if needed. (blackout for certain projectors)
  - Extra UV button for the use with for example 6-in1 LED projectors that include an UV LED
  - Separate dimmer and strobe fader.
  - Fixed color mode: Instant access to 9 pre-programmed colors with adjustable fade-over time
  - Static chase mode: 12 different color chases with manual speed control
  - Sound chase mode: 12 different color chases with audio triggering via the audio input or the integrated microphone
  - Spectrum mix: 32 different spectrum mix colors, including color fades
- The extra fader section is comparable to our SCENEMASTER SCM-1:
  - This makes it possible to control extra projectors, light effects, foggers, etc. via the same DMX line
  - Perfect to control moving heads equipped with our unique 3, 4 or 5MSL mode (DMX master/slave)
  - You can use the faders as 8 individual DMX channels or create 8 scenes (combination of faders)

## BEFORE USE

### Check the contents:

Check that the carton contains the following items:

- LEDCON-XL unit.
- AC/DC adapter
- User manual

### Some important instructions:

- Before you start using this unit, please check if there's no transportation damage. Should there be any, do not use the device and consult your dealer first.
- **Important:** This device left our factory in perfect condition and well packaged. It is absolutely necessary for the user to strictly follow the safety instructions and warnings in this user manual. Any damage caused by mishandling is not subject to warranty. The dealer will not accept responsibility for any resulting defects or problems caused by disregarding this user manual.
- Keep this booklet in a safe place for future consultation. If you sell the fixture, be sure to add this user manual.
- To protect the environment, please try to recycle the packing material as much as possible.

## SAFETY INSTRUCTIONS:



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



**CAUTION:** To reduce the risk of electric shock, do not remove the top cover. No user-serviceable parts inside. Refer servicing to qualified service personnel only.



The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user or the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this appliance.



This symbol means: indoor use only



This symbol means: Read instructions



This symbol means: Lamp Control Gear



The device is suitable for mounting on standard flammable surfaces. Standard flammable surfaces include building materials such as wood and wood-based materials more than 2mm thick.

- To prevent fire or shock hazard, do not expose this appliance to rain or moisture.
- To avoid condensation to be formed inside, allow the unit to adapt to the surrounding temperatures when bringing it into a warm room after transport. Condense sometimes prevents the unit from working at full performance or may even cause damages.
- This unit is for indoor use only.
- Don't place metal objects or spill liquid inside the unit. No objects filled with liquids, such as vases, shall be placed on this appliance. Electric shock or malfunction may result. If a foreign object enters the unit, immediately disconnect the mains power.
- No naked flame sources, such as lighted candles, should be placed on the appliance.
- Don't cover any ventilation openings as this may result in overheating.
- Prevent use in dusty environments and clean the unit regularly.
- Keep the unit away from children.
- Inexperienced persons should not operate this device.
- Maximum safe ambient temperature is 40°C. Don't use this unit at higher ambient temperatures.
- Always unplug the unit when it is not used for a longer time or before you start servicing.
- The electrical installation should be carried out by qualified personal only, according to the regulations for electrical and mechanical safety in your country.
- Check that the available voltage is not higher than the one stated on the rear panel of the unit.
- The socket inlet shall remain operable for disconnection from the mains.
- The power cord should always be in perfect condition: switch the unit immediately off when the power cord is squashed or damaged. It must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard
- Never let the power-cord come into contact with other cables!
- In order to avoid a hazard, the unit shall only be used with the AC-adaptor delivered with it. If the AC-adaptor is damaged, a same model adaptor shall be used only.
- In order to prevent electric shock, do not open the cover. Apart from the mains fuse there are no user serviceable parts inside.
- **Never** repair a fuse or bypass the fuse holder. **Always** replace a damaged fuse with a fuse of the same type and electrical specifications!
- In the event of serious operating problems, stop using the appliance and contact your dealer immediately.
- Please use the original packing when the device is to be transported.
- Due to safety reasons it is prohibited to make unauthorized modifications to the unit.

## MAINTENANCE

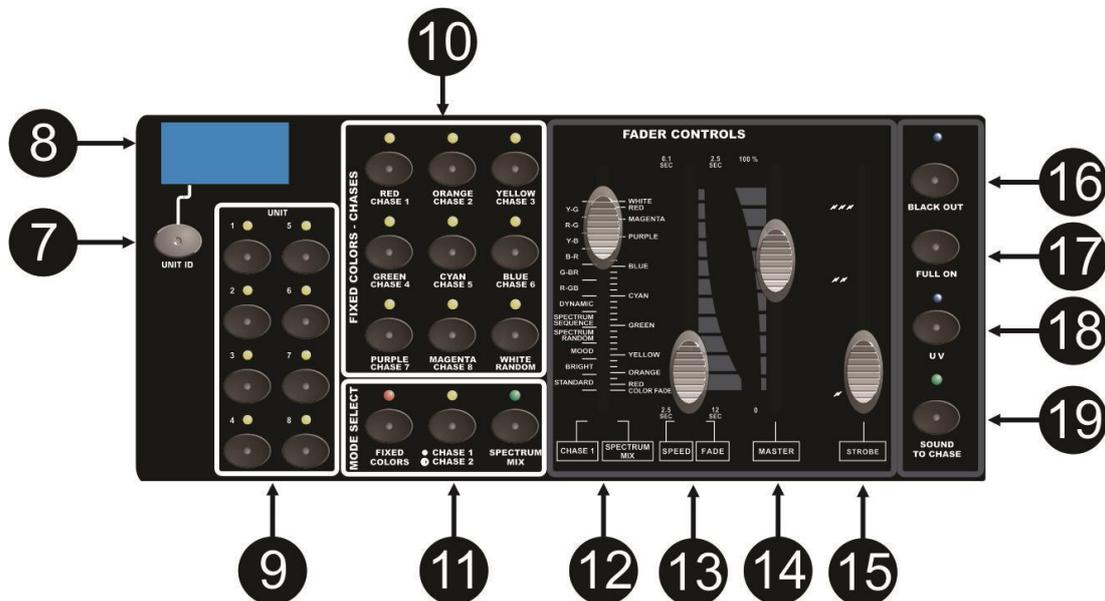
Clean by wiping with a polished cloth slightly dipped with water. Avoid getting water inside the unit. Do not use volatile liquids such as benzene or thinner which will damage the unit.

## FUNCTIONS EXTRA FADER SECTION



1. **CHANNEL FADERS:** can be used for different purposes, depending on the working mode:
  - **[Manual] mode:** change the output level of the channel.
  - **[Scene] mode:** progressively recalls the scene that was programmed under this fader.
2. **FLASH BUTTONS:** can be used for different purposes, depending on the working mode:
  - **[Manual] mode:** used as channel FLASH button (max. output as long as the button is pressed)
  - **[Scene] mode:** CHANNEL fader closed → switch the programmed scene on/off.  
CHANNEL fader not closed → used as scene FLASH button. (set scene at 100%)
3. **STATUS LED:** information depends on the working mode:
  - **[Manual] mode:** lights up progressively, depending on the fader position.
  - **[Scene] mode:** dark while no scene is programmed (empty).  
lit while a scene is programmed but not active.  
blinking while a scene is programmed and active (shown on the output)
4. **[SCENE/MANUAL] BUTTON:** used to toggle between manual mode and scene mode:
  - **[Manual] mode:** each of the 16 CHANNEL faders can be used to manually set the output level.
  - **[Scene] mode:** each of the 16 CHANNEL faders can contain a scene, scenes can be mixed manually.
5. **[PROGRAM] BUTTON:** used to program a scene under one of the CHANNEL faders. While pressed together with the [SCENE/MANUAL] button (4), you can set the controller in [PROGRAM] mode. For more information on using the [PROGRAM] button, see chapter "HOW TO SETUP".
6. **[BLACKOUT] BUTTON:** used to shutoff the DMX-output of the Fader section.

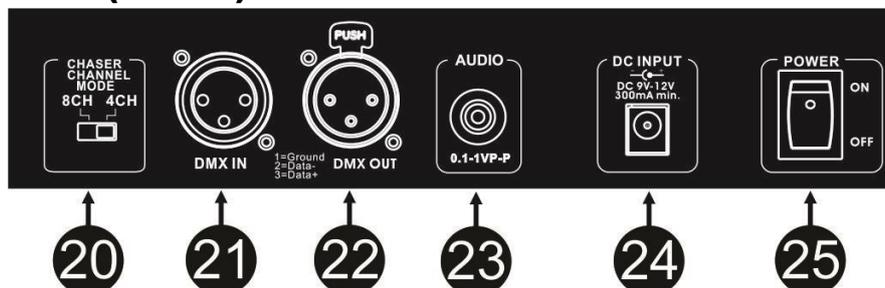
## FUNCTIONS LED PROJECTOR SECTION



7. **[UNIT ID] BUTTON:** this button is used to set the DMX configuration for each Unit
8. **INFORMATION DISPLAY**
9. **[UNIT] BUTTONS:** used to activate or deactivate the unit (group)
10. **[FIXED COLOR – CHASES] BUTTONS:** These buttons have different functions, depending on the selected working mode:
  - **[FIXED COLORS] MODE:** You can select 9 different predefined colors.
  - **[CHASE 2]:** You can select 8 different chases and a random chase. (sound activated or not)
11. **[MODE SELECT] BUTTONS:** 3 buttons used to set the controller in different working modes:
  - **[FIXED COLORS]:** select this mode if you want to use the “fixed color” buttons (10).
  - **[CHASE MODE]:** used to select two different chase modes:
    - **[CHASE 1]:** select this mode if you want to select one of the 12 color chases using the [chase 1 / spectrum mix] fader (12). In [Chase1] mode the yellow LED is lit. All projectors will change into the same color at the same time
    - **[CHASE 2]:** select this mode if you want to use the controller as a 4 or 8 channel DJ light modulator. You can use the [ fixed colors – chases] buttons” (10) to select the different chase programs. In [Chase2] mode the yellow LED blinks.
  - **[SPECTRUM MIX]:** select this mode if you want to select one of the 32 different colors using the [chase 1 / spectrum mix] fader (12).
12. **[CHASE 1 –SPECTRUM MIX] FADER:** used to select one of the available color chases:
  - Left side of the fader indicates the different chases.
  - The right side of the fader indicates the different colors.

**Important remark:** There’s also a function called “color fade” which is very nice for “background lighting” applications. Select this function to fade gently from one color to another. You can adjust the fade-over time with the color-fade fader(13).
13. **[SPEED/FADE] FADER:** used to select the chase speed or color fade time:
  - Left side of the fader indicates the chase speed, ranging from 2,5s to 0,1s.
  - In “fixed color” mode you can adjust the fade-over time between 2 colors from 2,5s to 0,1s.
  - Right side of the fader indicates the color fade time, ranging from 12s to 2,5s.
14. **[MASTER] FADER:** used to control the overall dimming of the LEDs.
15. **[STROBE] FADER:** used to control the strobe function and strobe speed
16. **[BLACKOUT] BUTTON:** used to set all the colors at zero level.
17. **[FULL ON] FLASH BUTTON:** used to set all the colors at maximum level.
18. **[UV] BUTTON:** used to activate the UV function of projectors that include UV LED's (like 6-in-1 projectors). The projectors will react in a different way, depending of the mode they are in:
  - In [FIXED COLORS] mode: only the UV effect will be on, all other colors will go out.
  - In [CHASE] and [Spectrum mix] mode: All UV leds will be always on while the normal color programs keep on running.
19. **[SOUND TO CHASE] BUTTON:** used to toggle the chase mode between sound controlled mode and static mode.

## FUNCTIONS (REAR)



20. **CHASER CHANNEL MODE:** used to determine if the Led Projector section should work as a 4 or a 8 channel LED light modulator.
21. **DMX INPUT:** this input can be used to connect an extra DMX controller to the unit, so you can control extra DMX channels via the same single DMX line.

The merger function of the unit will automatically add 100 DMX channels to the DMX channel you send into this input. Like that, the incoming DMX will not interfere with the signals the LEDCON-XL is generating.

For Example:

- Connect a JB Systems SCENEMASTER to the input of the LEDCON-XL
- 100 DMX channels will be added to the original channels of the SCENEMASTER
- This means Channel 001 of the SCENEMASTER will control DMX channel 101 in the DMX line
  - CH001 → CH101
  - CH002 → CH102
  - CH003 → CH103
  - CH004 → CH104
  - etc.

**22. DMX OUTPUT:** Sends DMX-signals to the connected units.

**23. AUDIO INPUT:** connect you audio source to this input to trigger the sound mode programs. If you don't connect anything to this input, the internal microphone will trigger the sound mode programs.

**24. DC INPUT:** connect the supplied AC/DC adapter to this input. If you should use another adapter, please make sure that it has a voltage between 9Vdc and 12Vdc and minimum 300mA with + in the center.

**25. POWER SWITCH:** used to switch the unit ON/OFF

## HOW TO SETUP

### 1. PROGRAM A SCENE IN THE FADER SECTION, BASED ON THE CHANNEL FADER POSITION:

**A.** Scenes can only be programmed while the unit is set in "program mode". So first enter "program mode" by pressing the SCENE/MANUAL (4) and PROGRAM (5) buttons together → red "program LED" is lit.

**B.** Use the SCENE/MANUAL button (4) to set the controller to "MANUAL".

**C.** Use the CHANNEL faders (1) to set the desired scene. (scene is present on the DMX-output)

**D.** Press the PROGRAM button (5) to check which channel faders already have scenes programmed:

- Channel with NO scene programmed: the STATUS LED (3) of this channel is dark.
- Channel with scene programmed: the STATUS LED (3) of this channel is lit.

→ You can save a new scene to an empty channel or overwrite an existing scene.

**E.** To program the current scene to a channel fader: keep the PROGRAM button (5) pressed while you press the FLASH button (2) of that channel fader. (the leds flash 3x to confirm that the scene was saved)

**F.** If you want to program other scenes, just repeat steps C to E.

**G.** Press the SCENE/MANUAL (4) and PROGRAM (5) buttons again to stop "program mode" (the red "program LED" turns dark)

### 2. PROGRAM SCENES IN THE FADER SECTION, BASED ON EXISTING SCENES

To speed up your work, you can also make new scenes by combining already existing scenes with simple fader positions. To do so you can switch between SCENE and MANUAL mode whenever you like.

**A.** Scenes can only be programmed while the unit is set in "program mode". So first enter "program mode" by pressing the SCENE/MANUAL (4) and PROGRAM (5) buttons together → red "program LED" is lit.

**B.** Use the SCENE/MANUAL button (4) to set the controller to "SCENE".

**C.** Use the CHANNEL faders (1) to recall some the scenes. (scene is present on the DMX-output)

**D.** Use the SCENE/MANUAL button (4) to set the controller to "MANUAL".

**E.** Use the CHANNEL faders (1) to make adjustments on the current scene combination.

**F.** Press the PROGRAM button (5) to check which channel faders already have scenes programmed:

- Channel with NO scene programmed: the STATUS LED (3) of this channel is dark.
- Channel with scene programmed: the STATUS LED (3) of this channel is lit.

→ You can save a new scene to an empty channel or overwrite an existing scene.

**G.** To program the current scene to a channel fader: keep the PROGRAM button (5) pressed while you press the FLASH button (2) of that channel. (the leds flash 3x to confirm that the scene was saved)

**H.** If you want to program other scenes, just repeat steps B to G.

**I.** Press the SCENE/MANUAL (4) and PROGRAM (5) buttons again to stop "program mode" (the red "program LED" turns dark)

**3. DELETE SCENES IN THE FADER SECTION**

Any programmed scene overwritten by a new scene or deleted. Deleting a scene is in fact nothing more than overwriting it with an empty scene:

- A. Scenes can only be deleted while the unit is set in “program mode”. So first enter “program mode” by pressing the SCENE/MANUAL (4) and PROGRAM (5) buttons together → red “program LED” is lit.
- B. Use the SCENE/MANUAL button (4) to set the controller to “MANUAL”.
- C. Use the CHANNEL faders (1) to make an “empty scene”: all faders are closed + status leds are dark.
- D. Keep the PROGRAM button (5) pressed (status leds of channels with scenes are lit): and push the FLASH buttons (2) of the scenes that you want to remove. The status leds (3) of the deleted scenes will turn dark.
- E. Press the SCENE/MANUAL (4) and PROGRAM (5) buttons again to stop “program mode” (the red “program LED” turns dark)

**4. SELECT THE TYPE OF THE PROJECTORS YOU WILL USE IN THE LED PROJECTOR SECTION**

To be able to work correctly, the controller needs to know what type of projectors you are going to use.

If you use have selected the 4 channel mode with the switch on the back of the controller, you will have to set this identity information for the 4 unit groups.

If you use have selected the 8 channel mode with the switch on the back of the controller, you will have to set this identity information for the 8 unit groups.

(in 1 unit group you can use one or more identical projectors with the same DMX configuration and the same DMX address)

- A. Press the [UNIT ID] button for about 3 seconds till [Patch 01] is shown on the display.
- B. Select the unit (group) you want to set first by pressing one of the 4/8 [UNIT] buttons.
- C. If several unit (groups) are using the same type of projectors, you can select several [UNIT] buttons or all [UNIT] buttons when all your projectors are identical.
- D. The LEDs of the selected units are lit
- E. Press shortly the [UNIT ID] button several times to browse the different DMX configurations (see table below)
- F. When you have found the DMX setup that corresponds to your selected units, press the [UNIT ID] button for about 2 to 3 seconds. When ready, the leds of the [UNIT] will go out
- G. Repeat steps B to E till the setting is done for all [UNIT] buttons.
- H. When all the settings are done and all the [UNIT] LEDs are off, press the [UNIT ID] button for about 3 seconds till [Play] appears on the display.
- I. You can now start using the controller

DMX configuration									
Patch 01	4bar R-G-B-d/m/s	R	G	B	D-M-S	R	G	B	D-M-S
Patch 02	R-G-B-d/m/s	R	G	B	D-M-S	-	-	-	-
Patch 03	d-R-G-B-s	DIM	R	G	B	STR	-	-	-
Patch 04	d-R-G-B-W-s	DIM	R	G	B	W	STR	-	-
Patch 05	d-R-G-B-W-A-s	DIM	R	G	B	W	A	STR	-
Patch 06	d-R-G-B-W-A-U-s	DIM	R	G	B	W	A	U	STR
Patch 07	d-s-R-G-B	DIM	STR	R	G	B	-	-	-
Patch 08	d-s-R-G-B-W	DIM	STR	R	G	B	W	-	-
Patch 09	d-s-R-G-B-W-A	DIM	STR	R	G	B	W	A	-
Patch 10	d-s-R-G-B-W-A-U	DIM	STR	R	G	B	W	A	U
Patch 11	R-G-B	R	G	B	-	-	-	-	-
Patch 12	R-G-B-W	R	G	B	W	-	-	-	-
Patch 13	R-G-B-W-A	R	G	B	W	A	-	-	-
Patch 14	R-G-B-d-s	R	G	B	DIM	STR	-	-	-
Patch 15	R-G-B-W-d-s	R	G	B	W	DIM	STR	-	-
Patch 16	R-G-B-W-A-d-s	R	G	B	W	A	DIM	STR	-
Patch 17	R-G-B-W-A-U-d-s	R	G	B	W	A	U	DIM	STR

- R = Red channel
- G = Green channel
- B = Blue channel
- W = White channel
- A = Amber channel
- U = UV channel
- DIM = Dimmer channel
- STR = Strobe channel
- D-M-S = JB systems Dimmer/Music /Strobe channel

**REMARK:** the dimmer channel and the strobe channel are generated by the LEDCON-XL. This means that if you use the simple RGB, RGBW, etc mode in a projector (without dim and strobe channel), you will still have a general dimmer and strobe control to control the unit ☺

#### USE WITH 4-BARS

- Our new 4-bars will have a special [LC-XL] or [LEDCON-XL] mode to be compatible with the LEDCON-XL. Check the manual of the 4-bar to see what [Patch] you should use. Set this [Patch] for the 4 individual projectors of your 4-bar (= 4 [UNIT] buttons on the LEDCON-XL).
- If you have older JB Systems 4-bars without this special [LC-XL] or [LEDCON-XL] mode, you can use [Patch 01]. In this case, the projectors of the 4-bar will always work by pairs. (2 projectors will be seen as a single projector).  
IMPORTANT: Note that for 1 bar, you have to set 2 [UNIT] groups in [Patch 01] mode. (for example [UNIT] 1 and 2). [Unit 1] will control the first 2 projectors of the bar, [Unit 2] will control the last 2 projectors of the 4-bar

## ADDRESSING THE CONNECTED UNITS

Each time you build a different installation with the LEDCON-02 MK2, you should check the DMX addresses of the connected projectors.

### 1. MANUAL ADDRESSING for the units of the FADER SECTION:

- Fader 1 = DMX address 093
- Fader 2 = DMX address 094
- Fader 3 = DMX address 095
- Fader 4 = DMX address 096
- Fader 5 = DMX address 097
- Fader 6 = DMX address 098
- Fader 7 = DMX address 099
- Fader 8 = DMX address 100

### 2. MANUAL ADDRESSING for the units of the LED PROJECTOR SECTION:

Set the DMX start addresses corresponding to the channel mode you have selected.

#### 4CH MODE:

- [Unit 1] = address 001
- [Unit 2] = address 009
- [Unit 3] = address 017
- [Unit 4] = address 025

#### 8CH MODE:

- [Unit 1] = address 001
- [Unit 2] = address 009
- [Unit 3] = address 017
- [Unit 4] = address 025
- [Unit 5] = address 033
- [Unit 6] = address 041
- [Unit 7] = address 049
- [Unit 8] = address 057

**3. MANUAL ADDRESSING for the use with an EXTRA EXTERNAL DMX CONTROLLER:**

You can connect an extra DMX controller to the DMX input of the LEDCON-XL if you want to control more fixtures via the same DMX line.

To don't interfere with the commands of the LEDCON-XL, 100 channels will automatically be added to the channels coming from the external controller.

<b>EXTERNAL CONTROLLER output</b>		<b>LEDCON -XL output</b>
DMX channel = 001	→	DMX channel = 101
DMX channel = 002	→	DMX channel = 102
DMX channel = 003	→	DMX channel = 103
DMX channel = 004	→	DMX channel = 104
	Etc.	
DMX channel = 412	→	DMX channel = 512

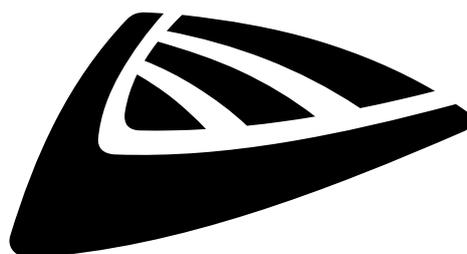
**SPECIFICATIONS**

This unit is radio-interference suppressed. This product meets the requirements of the current European and national guidelines. Conformity has been established and the relevant statements and documents have been deposited by the manufacturer.

- Power Input:** DC 9V to 12V, 300mA minimum.
- AC/DC Power adapter:** AC 230V, 50Hz → 9Vdc to 12V / 300mA (or more)
- DMX output:** 3pin XLR
- DMX input:** 3pin XLR
- Audio input:** RCA or internal microphone
- Size:** 482 x 133 x 75 mm
- Weight:** 22 kg

**Every information is subject to change without prior notice**  
**You can download the latest version of this user manual on our website:**  
[www.jb-systems.eu](http://www.jb-systems.eu)





**JB SYSTEMS**

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