

**User Manual** 



SAP-512 MK2 Stand-alone player incl. DMX control software PC-Control 512

No. 51860156

www.eurolite.de

# SUMMARY

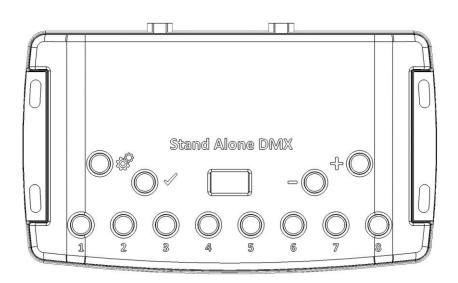
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## HARDWARE TECHNICAL SPECIFICATIONS

USB 2.0 via Mini USB Input Number of DMX Outputs (512/1024) Up to 512 / 1024 on 3 pin XLR (XLR5 optional) 2x512 (Splitter, PC + Stand Alone) or 512 in/out (PC mode) DMX Modes (512) DMX Modes (1024) 2x512,1024 or 512 in/out (PC + Stand Alone) Yes (PC only, DMX record, DMX trigger) DMX Input (512) Yes (PC and Stand Alone mode, DMX record, DMX trigger) DMX Input (1024) Stand Alone Mode (512) Yes, 2x512 (splitter), fine DMX channels (16 bits) Yes, 2x512 (splitter), 1024, 512 in/out, fine DMX channels (16 bits) Stand Alone Mode (1024) No, 1 Zone, can play 1 scene per time Multiple Zone (512) Yes, 5 Zones, can play 5 different scenes per time Multiple Zone (1024) Yes, merge several interfaces to play different Zones together Stand Alone DMX Merging Yes (4 Mb) **Internal Memory Memory Capacity** 20000 steps with 16 ch., 6000 steps with 512 ch., 3000 steps with 1024 ch. Yes, Time and calendar triggers (minutes, hours, week days, month) **Real Time Clock - RTC** Yes, 8 buttons with Blue status LED **Trigger buttons Option Buttons** Yes, 4 buttons (Mode, Valid, Next, Previous) Yes, Scene Trigger, Scene Pages, Colors, General Dimmer, Scene speed **Button modes** Yes, RJ45 connectors for all In/Out pins and connections **RJ45 Easy I/O connectors** Yes (7 contacts port on 3,3V or 5V) **Dry Contact Triggers RS232 Triggers** Yes, scene selection, speed, dimmer, zone, black out **Infra-red Receiver** Yes, external IR PCB and IR remote control available in option **Infra-red Options** 10 scene selection, scene speed, general dimmer and next scene **Light intensity Triggers** Yes, external PCB with Light sensor available in option Master/Slave Yes, synchronize and connect up to 32 interfaces together in stand alone **CPU's technology** 32 bits H : 38mm(1.49in) / W : 166mm(6.54in) / D : 97mm (3.82in) **Dimensions** Weight 0.2 Kgs 9V to 36V DC input on DC connectors, 5V via USB **Power Supply Input High Voltage Protection** Yes Black with 4 mounting holes, ABS Plastic Housing **IP20 IP** rating Place of Use Indoor Keep in dry place Storage 8 and 16 bits DMX fixtures Compatibility **Operating Temperature** - 25 to +70 C° CE, RoHS, Fcc Certifications Yes, 3 years **International Warranty** Software features: **LED Player** 1024 channels DMX + Stand Alone mode, Live Board mode Full mode Studio DMX 3D viewer **Pro DMX** Yes, 1024 channels, full mode, 30 minute loop of Audio and VideoTimeline **Art-Net output from PC** Yes, 1 or 2 Universes (DMX + Artnet) Wi-Light 2016 App Yes, can control the LED Player Live Board with a WIFI connection Windows, MAC Os X (10.6 and higher) and Linux (64 Bits) System Compatibility Yes Free software updates 1 USB cable + 1 USB to DMX Interface (3 Pin XLR, 5 pins in option) Package Content:

## FRONT FACE OF THE 512 / 1024 CHANNELS INTERFACES



### Scene triggering buttons:

- 1: Scene 1 On/Off
- 2: Scene 2 On/Off
- 3: Scene 3 On/Off
- 4 Scene 4 On/Off
- 5: Scene 5 On/Off
- 6: Scene 6 On/Off
- 7: Scene 7 On/Off
- 8: Scene 8 On/Off

### **Command buttons:**

I Mode selection (Trigger, Page, Color, Speed, Dimmer)

- : Valid Choice / Color Off
- Decrease values
- 子 : Increase values

## Display:

7-segments LED display

### LED 7-SEGMENTS DISPLAY OPERATION:

Display the number of the current scene, page, color and the mode (speed/dimmer) value.

- PC: The interface is connected to the computer and controlled by software.
- SA: Stand Alone mode is running. No scene is playing. All DMX channels are set to 0.
- PA: Page mode, allow to switch between 10 pages of 8 buttons to triggers scenes directly.
- **Co:** Color mode, to play a color on RGBW channels.
- SP: Speed mode, increase or decrease the current scene speed
- dl: Dimmer mode, increase or decrease the general dimmer (scene and colors)
- Pr: Programming memory Mode (when memory is written)
- **bL:** Bootloader mode (during firmware update)

In Stand alone mode, the 7 segment display gives the current scene number. The 00 value is Blackout and the DMX interface send nulls (0x00) on all output.

- In page mode, li t shows the page number 01,02...
- In color mode, the display indicates the color number C1,C2...
- In speed mode, the display indicates the speed of the current scene, values are between -9 and 9. In dimmer mode, the display indicates the general intensity, values are between -9 and 9.
- Datasheet Standalone Interfaces USB-DMX 512 and 1024 channels

### LED 7-SEGMENTS SLEEP OPTION:

It's possible to activate the sleep option in the software. This will turn off the display after 4 seconds of inactivity on the interface's buttons.

Turn off LED display after 4s Option available in the standalone window of the software.

### SELECTION MODE BUTTON

Press the Button 🖤 to select the Stand alone, Page, Color, Speed or Dimmer mode.

### VALID BUTTON

Press the button  $\checkmark$  to validate your choice or turn off the current color selection.

### NEXT/PREVIOUS, +/-SCENE BUTTONS

**Stand alone mode:** Select the scene number with + or –, then go to the scene number to start and press Valid to confirm and play the new scene from 01 to 255. With scene 00 nothing is playing

**Page Mode:** Select the scene page with + or – from P0 to P9, then choose the scene of the page from the 8 buttons. **Color mode:** Select one of the 8 personalized color or choose the color of the color wheel from 00 to 99 with + or –. Turn off or recall the color from the color wheel with Valid.

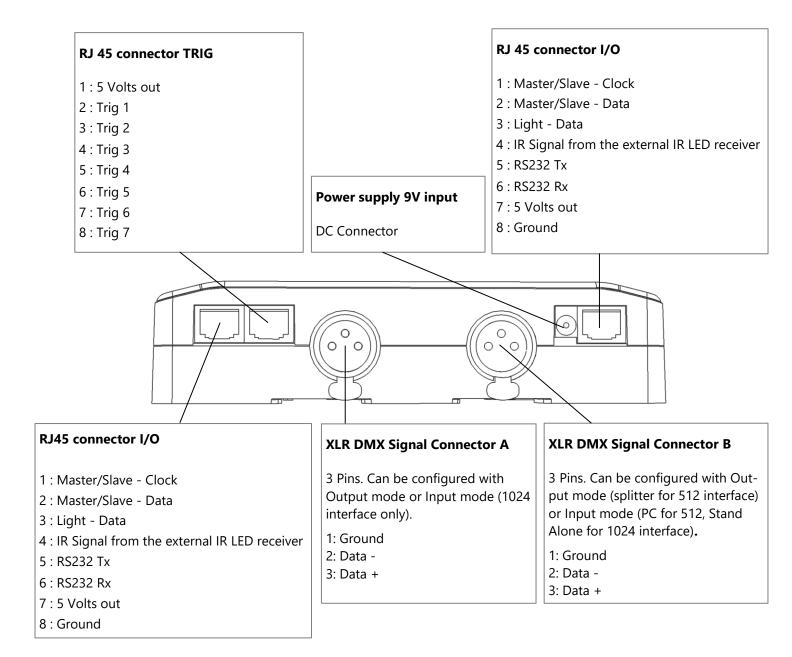
Speed Mode: Increase or decrease the Speed of the current scene. Values from -9 to +9.

Dimmer Mode: Increase or decrease the general intensity (dimmer + RGB) of scenes and colors. Values from -9 to +9.

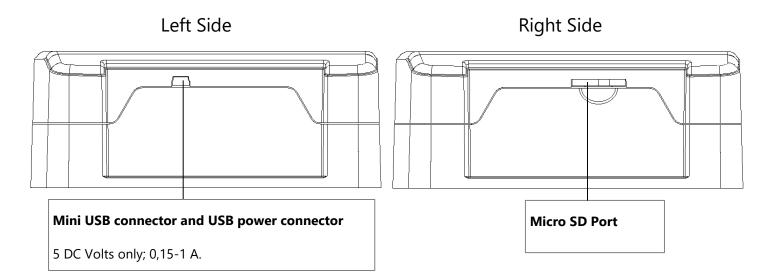
### BLUE LED BUTTONS

Push a button to trigger the scenes in memory from 1 to 8 in Stand Alone mode and Page mode. Push again to stop the current scene. Choose a personalized colors.

## TOP FACE OF THE 512 / 1024 CHANNELS INTERFACES



## SIDE FACES OF THE 512 / 1024 CHANNELS INTERFACES



## STAND ALONE INTERFACE TRIGGERS

The Stand Alone mode of the software enable to configure and personalize all the triggers. The information will be directly saved in the DMX interface memory with the memory writing function.

### SWITCH TO STAND ALONE MODE

When the device isn't connected to the software or has just been powered, it enters in Stand Alone mode after five (5) seconds.

## INTERFACE MODE SETTINGS

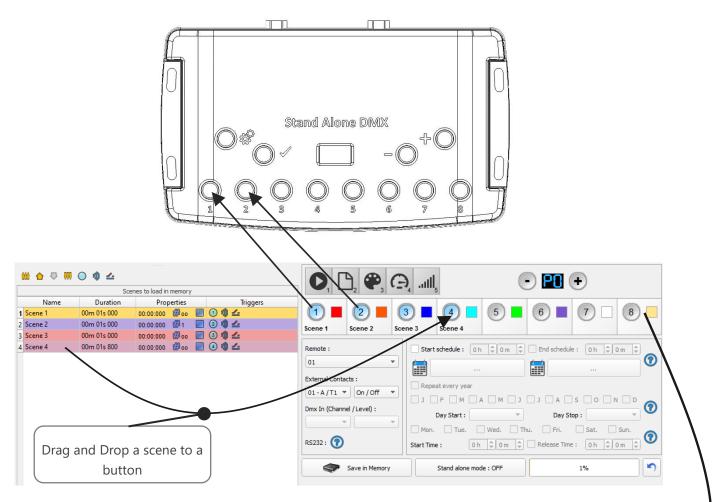
It is possible to personalize the mode that you want to use in Stand Alone.

From the mode icons, you can right click to Add or Remove a move. Drag and drop a mode in the list to order them accordingly to your need.

| File Tools Help   |   |
|---|---|
| 00:00:00 🚳 🌑 🖳 🛗 🗀  |   |
| Devices   | 🐵 In / Out Config 🕜 Clock 🕲 Options 🐻 Master / Slave 🛃 Triggers   |
| Device #1 : CQSA 512 B07333   | In / Out Config: DMX 1 Out / DMX 2 Out<br>DMX Universe 1: U1<br>DMX Universe 2: U1<br>Channels: 320<br>Channels: 3 |
|   |   |
| Available scenes  |   |
| Name Duration Properties Triggers   |   |
| ₩ ✿ ♡ ♥ ★   | 1 2 3 4 5 6 7 8 1<br>Scene 1 Scene 2 Scene 3  |
| Scenes to load in memory  |   |
| Name Duration Properties Triggers   | Start schedule: Un v Um v End schedule: Un v Um v   |
| 1 Scene 1 00m 04s 000 00:00:000 🏶 oo 📃 🛈 🚄  | External Contacts :   |
| 2 Scene 2 00m 01s 800 00:00:000 🛱 oo 🔲 💿  | 01 - A/T1 *     On         Repeat every year  |
| 3 Scene 3         00m 06s 120         00:00:000         ∰oo         ③           4 Scene 4         00m 01s 000         00:00:000         ∰oo         ■         ④ |   |
| 4 Scene 4 00m 01s 000 00:00:000 🗰 💿 🧧 🧐 🚣   |   |
|   |   |
|   | R5232 : ⑦   |
|   | Restore if power off Start Time : Oh 🗘 Om 🗘 Release Time : Oh 🎝 Om 🌩  |
|   | Update SA Config Save in Memory   |
|   | Stand alone mode : OFF 1%   |
|   |   |
| Drag and  | Drop to organize<br>modes   |
| Remove  | ick on a mode to<br>remove it   |
| Click on<br>Scene 1 Scene 2 Scene 3   | + to add a mode   |

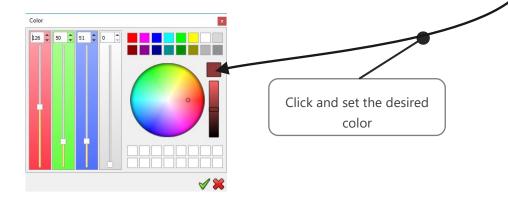
### LED BUTTONS TRIGGER

Standalone mode offers 8 buttons that represents the interface LED buttons. From the scene list of the standalone mode, you need to drag and drop a scene on any button to assign a button number.



It's possible to replace a scene by another one or to remove it by pulling it out of the list.

You can also setup a color to each button and play this color in the color mode, click on color square to set your own color.

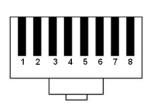


### 127 CONTACTS WIRING AND CONNECTIONS WITH RJ45 PINS

The 7 externals contacts are located on the RJ45 connector number 2. You can use the 7 contacts to trigger 7 scenes. To have more triggers you must use a multiplexed system to get a maximum of 127 contacts as following:

Multiplex the trigger could give 127 triggers combinations

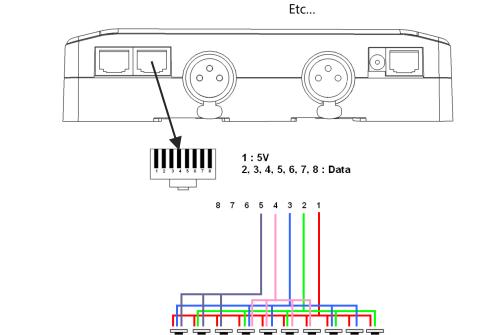
External Contact Closures can be done only when Pin 2, 3, 4, 5, 6, 7, 8 are connected to Pin 1 (5 V. DC). (up to 127 triggers)



Pin Table:

| Trigger 01 = Pin 2         | - |
|----------------------------|---|
| Trigger 02 = Pin 3         | - |
| Trigger 03 = Pin 2 + 3     | - |
| Trigger 04 = Pin 4         | - |
| Trigger 05 = Pin 2 + 4     | - |
| Trigger 06 = Pin 3 + 4     | - |
| Trigger 07 = Pin 2 + 3 + 4 | - |
|                            |   |

Trigger 08 = Pin 5 Trigger 09 = Pin 2 + 5 Trigger 10 = Pin 3 + 5 Trigger 16 = Pin 6 Trigger 32 = Pin 7 Trigger 48 = Pin 6 + 7 Trigger 64 = Pin 8 Trigger 100 = Pin 4 + 7 + 8



10 09 08 07 06 05 04 03 02 01

By selecting a scene in the list, it's possible to choose the external contact number (from 01 to 127) to trigger the scene.

By default, the interface gives 7 external contacts (01, 02, 04, 08, 16, 32, 64). To obtain 127 external contacts, you have to use a de-multiplexing interface in order to go from 7 to 127 possible combinations.

| Scenes to load in memory |             |                          |     |  |   |   |  |                 | External Contacts :        |           |      |
|--------------------------|-------------|--------------------------|-----|--|---|---|--|-----------------|----------------------------|-----------|------|
| Name Duration            |             | Name Duration Properties |     |  |   |   |  | Triggers        |                            | 01-A/T1 💌 | On 💌 |
| 1 Scene 1                | 00m 04s 000 | 00:00:000                | #00 |  | 1 | 4 |  | Dmx In (Channel | On                         |           |      |
| 2 Scene 2                | 00m 01s 800 | 00:00:000                | #00 |  | 2 |   |  |                 | / On / Off<br>Auto Release |           |      |
| 3 Scene 3                | 00m 06s 120 | 00:00:000                | ∰00 |  | 3 |   |  | · ·             | Restart                    |           |      |
| 4 Scene 4                | 00m 01s 000 | 00:00:000                | #00 |  | 9 | 4 |  | RS232 : 🕜       |                            |           |      |

Several trigger options are available for externals contacts triggers:

**On :** Activate the contact only allow you to play the scene.

**On/Off :** Activate the contact allow you to play and stop a scene. Each trigger action will invert the state of the scene (start/stop).

**Auto Release:** The scene plays while the contact is activated. Keep the contact activated to play the scene, when the contact is released the scene stop.

**Restart :** Activate the contact restart the scene from its beginning, if the scene is of, then it start to play. Activate the contact will restart the scene from its beginning automatically. If the scene is off already, then it will play.

### TRIGGERING COMMANDS

External contacts can also trigger commands in stand alone mode. >From the Triggers tab you can select a contact for each action : Dimmer + , Dimmer -, Blackout, Speed +, Speed -, Pause, Scene +, Scene - and Area.

It is not possible to use the same trigger for scene and command, in this case, the scene contact has the priority or the scene will loose its contact trigger information after choose the contact from the Trigger command tab.

| 🕙 In / Out Config | Clock        | Options    | 🛄 Ma     | ster / Slave               | 占 Triggers |   |  |
|-------------------|--------------|------------|----------|----------------------------|------------|---|--|
|                   | _            |            |          |                            | _          |   |  |
| Dim               | mer +: 01    | -A/T1 🔻 Sp | eed +:   |                            | Scene +:   | • |  |
| Dim               | mer - : 05   | ▼ Sp       | oeed - : | 01 - A / T1<br>02 - B / T2 | Scene - :  | • |  |
| Bla               | ckout :      | ▼ Pa       | ause :   | 03<br>04 - C / T3          | Area :     | - |  |
|                   |              |            |          | 05                         |            |   |  |
|                   | <b>D</b> , 4 | 4 5        |          | 07<br>08 - D / T4<br>09    |            | • |  |

### IR REMOTE CONTROL UNIT AND IR RECEIVER



Button 1 to 10 must be assigned to a scene via the software.

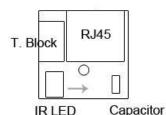
Each button can trigger a different scene. With the remote control, a scene cannot be stop directly with the assigned button. To stop it you must press the Stop/Black Out button or trigger another scene.

Pause button to freeze the current scene to its actual state.

**Stop/Black Out** button to stop the current scene and play the empty scene number 00. All DMX channels are set down to 00 levels.

+/- for scene trigger. Select the next or previous scene automatically. You don't need to hold the button to validate and play a scene. The next or previous scene will play directly after selected.

**+/- for Scene speed**. Increase or decrease the speed of the current scene. A different speed can be chosen separately for each scene.

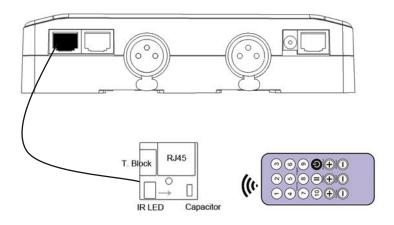


+/- for General dimmer. Increase or decrease the RGB, CMY and dimmer channels of the fixtures. The CMY, RGB, Dimmer channels are defined in the Profile of the fixture.

To use the IR remote control, an external PCB with an IR receiver LED must be connected before to the RJ45 #1 of the Stand Alone interface. The standard RJ45 cable distance is about 20 meters maximum.

### IR PCB Pin assignment:

-With RJ45 use pins #8 = Ground; #4 = IR Data ; #7 = 5V DC. -With T. Block use pins: **O** = IR Data; **V** = 5V DC; **G** = Ground.

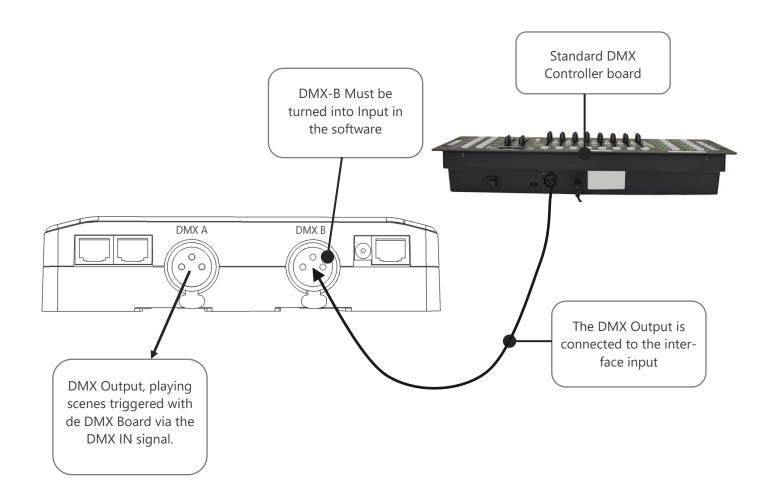


In the software go to Stand Alone Mode and use the Triggers options to assign a remote button to a scene. Standalone mode offers up to 10 triggers with the Infrared remote.

By selecting a scene in the list, it's possible to choose the remote button number (from 01 to 10) to trigger the scene. The other IR remote functions will work as well as the SLIM DMX interface. (Speed, dimmer, scene +, scene -, off).

| Remote :                   |   | Scenes to load in memory |             |                  |          |  |  |  |  |  |
|----------------------------|---|--------------------------|-------------|------------------|----------|--|--|--|--|--|
| 01                         |   | Name                     | Duration    | Properties       | Triggers |  |  |  |  |  |
| External Contacts :        | 1 | Scene 1                  | 00m 01s 000 | 00:00:000 🗱 oo 🔲 | ► »)     |  |  |  |  |  |
| <b>T</b>                   | 2 | Scene 2                  | 00m 01s 000 | 00:00:000 🤀1 📃   | »))      |  |  |  |  |  |
|                            | 3 | Scene 3                  | 00m 01s 000 | 00:00:000 🏶 oo 📃 | 2        |  |  |  |  |  |
| Omx In (Channel / Level) : | 4 | Scene 4                  | 00m 01s 800 | 00:00:000 🗱 oo 📃 | 20       |  |  |  |  |  |
| • • •                      |   |                          |             |                  |          |  |  |  |  |  |
| RS232 : 🕜                  |   |                          |             |                  |          |  |  |  |  |  |

### DMX IN TRIGGER CONNECTION



### DMX IN TRIGGERS VIA ANOTHER DMX SIGNAL IN STANDALONE

DMX in trigger in stand Alone available only with 1024 interfaces.

In stand alone window set In / Out Config as DMX 1 Out/DMX 2 In and select the DMX Out universe

| 🕑 In / Out Config | O Clock   | Options | 🛅 Master / Slave | 🖆 Triggers         |     |
|-------------------|-----------|---------|------------------|--------------------|-----|
|                   |           |         |                  |                    |     |
|                   |           | In / Ou | t Config : DI    | MX 1 Out           | •   |
|                   | (         |         | DN               | 1X 1 Out           |     |
| DMX Univer        | se 1: U1  |         | - DN             | 1X 1 Out / DMX 2 ( | Out |
|                   | U1        |         |                  | 1X 1 Out / DMX 2 I |     |
| DMX Univer        | se 2 : U2 |         |                  | annels : 320       |     |
|                   | U3        |         |                  |                    |     |
|                   | U4        |         |                  |                    |     |
|                   | U5        |         |                  |                    |     |
|                   | U6        |         |                  |                    |     |
|                   | U7        |         |                  |                    |     |
|                   | U8        |         |                  |                    |     |
|                   | U9        |         |                  |                    |     |
|                   | U10       |         | <b>T</b>         |                    |     |

The Stand Alone mode offers up to 512 DMX IN channel triggers and up to 255 DMX trigger values per channel. By selecting a scene in the list, it's possible to choose the channel number and the DMX value to trigger the scene. The scene will play when the value of the DMX channel is reached or exceeded.

| 8 | Scene 9 | 00m 01s 800 | 00:00:000 | <b>∰</b> 00 | <u></u> | #1 | Dmx In (Channel / Level) : | 1 🔹 | 225 | - |
|---|---------|-------------|-----------|-------------|---------|----|----------------------------|-----|-----|---|
|   |         |             |           | -00         |         |    |                            |     |     |   |

### SETUP DMX IN MODE IN SOFTWARE USE

In software one DMX Output must be turned into an input in the Options windows. To access this window click on the software menu: Tools > Options then click to select the device section as following:

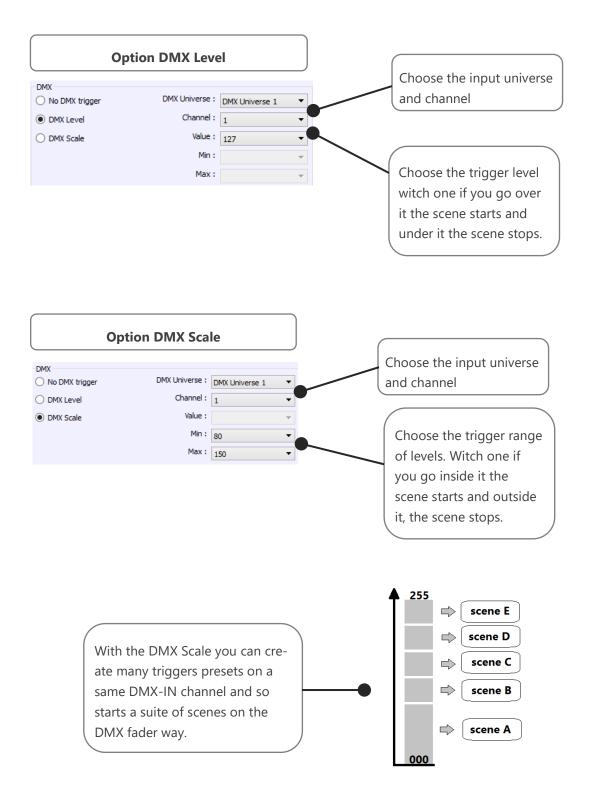
|                | Options  |  |
|----------------|----------|--|
|                | <b>Č</b> | Device #1 : CQSA 512 B07333   A Out B In   DMX Universe #1   DMX Universe #1 |
| Device Section |          |  |
|                |          |  |
|                | ARTNET   | DMX DMX A: Out   DMX Universe 1  |
| Define input   | N        | DMX B : In DMX Universe 1 V  |

You can select an universe for output and input mode with 1024 and 512 interfaces.

Follow those steps to set a DMX-IN trigger on a scene or on a program:



Two DMX-IN trigger options are available: DMX Level and DMX Scale, let's see what the differences are:



### RS232 TRIGGERS IN STAND ALONE

|                                       | Þ RS23 | 2 Protocol                   |   | Х   |  |  |  |  |  |  |  |
|---------------------------------------|--------|------------------------------|---|-----|--|--|--|--|--|--|--|
|                                       | (i)    | Specificatio                 | ons   |     |  |  |  |  |  |  |  |
|                                       |        | Asynchronou                  | Asynchronous, 9600 bps, No Parity, 8 Data Bit, 2 Stop Bit                               |     |  |  |  |  |  |  |  |
| Remote :                              |        | General                      |   |     |  |  |  |  |  |  |  |
| · · · · · · · · · · · · · · · · · · · |        | Start of Text<br>End of Text | : 02h (STX)<br>: 03h (ETX)  |     |  |  |  |  |  |  |  |
| External Contacts :                   |        |                              | . 0511 (E1X)  |     |  |  |  |  |  |  |  |
|                                       |        | ZONEX                        | : Set the current Zone (X = a, b, c, d, e, f)   |     |  |  |  |  |  |  |  |
| Dmx In (Channel / Level)              |        | SCXXX                        | : Start / Stop the scene XXX of the current zone<br>(XXX = 001-255 / SC000 = Black out) |     |  |  |  |  |  |  |  |
|                                       |        | STOP0                        | : Black Out   |     |  |  |  |  |  |  |  |
| R5232 : 🕜                             |        | Command                      | s for the current scene   |     |  |  |  |  |  |  |  |
| _                                     |        | PLAY0                        | : Play  |     |  |  |  |  |  |  |  |
|                                       |        | PAUSE                        | : Pause   |     |  |  |  |  |  |  |  |
|                                       |        | DIM++                        | : Dimmer +  |     |  |  |  |  |  |  |  |
|                                       |        | DIM                          | : Dimmer -  |     |  |  |  |  |  |  |  |
|                                       |        | DIM+X                        | : Set positive dimmer value (X = 0-9 / 0 = default dimmer valu                          |     |  |  |  |  |  |  |  |
|                                       |        | DIM-X                        | : Set negative dimmer value (X = 0-9 / 0 = default dimmer val                           | ue) |  |  |  |  |  |  |  |
|                                       |        | SPD++                        | : Speed +   |     |  |  |  |  |  |  |  |
|                                       |        | SPD                          | : Speed -   |     |  |  |  |  |  |  |  |
|                                       |        | SPD+X                        | : Set positive speed value (X = 0-9 / 0 = default speed value)                          |     |  |  |  |  |  |  |  |
|                                       |        | SPD-X                        | : Set negative speed value (X = 0-9 / 0 = default speed value)                          |     |  |  |  |  |  |  |  |
|                                       |        | Colors                       |   |     |  |  |  |  |  |  |  |
|                                       |        | COLRX                        | : Trigger button X of the color mode (X = 1-8)  |     |  |  |  |  |  |  |  |
|                                       |        | CLRXX                        | : Trigger color X of the predefined colors (X = 00-99)                                  |     |  |  |  |  |  |  |  |
|                                       |        | CLR00                        | : Turn off color  |     |  |  |  |  |  |  |  |
|                                       |        | Example (S                   | tart scene 2)   |     |  |  |  |  |  |  |  |
|                                       |        | [STX]SC002[E                 | TX]   |     |  |  |  |  |  |  |  |
|                                       |        |                              | ОК  |     |  |  |  |  |  |  |  |

Standalone mode allows to use the RS232 protocol to control the DMX interface with the commands describe in the help topic

Connect the RS232 transmitter to the interface RS232 and GND pins and send the dedicated ASCII commands lines that you need.

The ASCII commands need to be send one time only to be processed by the interface.

# **ASCII TABLE**

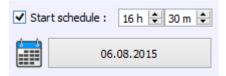
| Decimal | Hexadecimal | Binary | Octal | Char                   | Decimal | Hexadecimal | Binary  | 0ctal | Char | Decimal | Hexadecimal | Binary  | <b>Octal</b> | Char  |
|---------|-------------|--------|-------|------------------------|---------|-------------|---------|-------|------|---------|-------------|---------|--------------|-------|
| 0       | 0           | 0      | 0     | [NULL]                 | 48      | 30          | 110000  | 60    | 0    | 96      | 60          | 1100000 | 140          | *     |
| 1       | 1           | 1      | 1     | [START OF HEADING]     | 49      | 31          | 110001  | 61    | 1    | 97      | 61          | 1100001 | 141          | a     |
| 2       | 2           | 10     | 2     | [START OF TEXT]        | 50      | 32          | 110010  | 62    | 2    | 98      | 62          | 1100010 | 142          | b     |
| 3       | 3           | 11     | 3     | [END OF TEXT]          | 51      | 33          | 110011  | 63    | 3    | 99      | 63          | 1100011 | 143          | C     |
| 4       | 4           | 100    | 4     | [END OF TRANSMISSION]  | 52      | 34          | 110100  | 64    | 4    | 100     | 64          | 1100100 | 144          | d     |
| 5       | 5           | 101    | 5     | [ENQUIRY]              | 53      | 35          | 110101  | 65    | 5    | 101     | 65          | 1100101 | 145          | e     |
| 6       | 6           | 110    | 6     | [ACKNOWLEDGE]          | 54      | 36          | 110110  | 66    | 6    | 102     | 66          | 1100110 | 146          | f     |
| 7       | 7           | 111    | 7     | [BELL]                 | 55      | 37          | 110111  | 67    | 7    | 103     | 67          | 1100111 | 147          | g     |
| 8       | 8           | 1000   | 10    | [BACKSPACE]            | 56      | 38          | 111000  | 70    | 8    | 104     | 68          | 1101000 | 150          | h     |
| 9       | 9           | 1001   | 11    | [HORIZONTAL TAB]       | 57      | 39          | 111001  | 71    | 9    | 105     | 69          | 1101001 | 151          | i     |
| 10      | A           | 1010   | 12    | [LINE FEED]            | 58      | 3A          | 111010  | 72    | :    | 106     | 6A          | 1101010 | 152          | j     |
| 11      | В           | 1011   | 13    | [VERTICAL TAB]         | 59      | 3B          | 111011  | 73    | ;    | 107     | 6B          | 1101011 | 153          | k     |
| 12      | C           | 1100   | 14    | [FORM FEED]            | 60      | 3C          | 111100  | 74    | <    | 108     | 6C          | 1101100 | 154          | 1     |
| 13      | D           | 1101   | 15    | [CARRIAGE RETURN]      | 61      | 3D          | 111101  | 75    | =    | 109     | 6D          | 1101101 | 155          | m     |
| 14      | E           | 1110   | 16    | [SHIFT OUT]            | 62      | 3E          | 111110  | 76    | >    | 110     | 6E          | 1101110 | 156          | n     |
| 15      | F           | 1111   | 17    | [SHIFT IN]             | 63      | 3F          | 111111  | 77    | ?    | 111     | 6F          | 1101111 | 157          | 0     |
| 16      | 10          | 10000  | 20    | [DATA LINK ESCAPE]     | 64      | 40          | 1000000 | 100   | @    | 112     | 70          | 1110000 | 160          | p     |
| 17      | 11          | 10001  | 21    | [DEVICE CONTROL 1]     | 65      | 41          | 1000001 | 101   | A    | 113     | 71          | 1110001 | 161          | q     |
| 18      | 12          | 10010  | 22    | [DEVICE CONTROL 2]     | 66      | 42          | 1000010 | 102   | B    | 114     | 72          | 1110010 | 162          | r     |
| 19      | 13          | 10011  | 23    | [DEVICE CONTROL 3]     | 67      | 43          | 1000011 | 103   | C    | 115     | 73          | 1110011 | 163          | S     |
| 20      | 14          | 10100  | 24    | [DEVICE CONTROL 4]     | 68      | 44          | 1000100 | 104   | D    | 116     | 74          | 1110100 | 164          | t     |
| 21      | 15          | 10101  | 25    | [NEGATIVE ACKNOWLEDGE] | 69      | 45          | 1000101 | 105   | E    | 117     | 75          | 1110101 | 165          | u     |
| 22      | 16          | 10110  | 26    | [SYNCHRONOUS IDLE]     | 70      | 46          | 1000110 | 106   | F    | 118     | 76          | 1110110 | 166          | v     |
| 23      | 17          | 10111  | 27    | [ENG OF TRANS. BLOCK]  | 71      | 47          | 1000111 | 107   | G    | 119     | 77          | 1110111 | 167          | w     |
| 24      | 18          | 11000  | 30    | [CANCEL]               | 72      | 48          | 1001000 | 110   | н    | 120     | 78          | 1111000 | 170          | ×     |
| 25      | 19          | 11001  | 31    | [END OF MEDIUM]        | 73      | 49          | 1001001 | 111   | 1    | 121     | 79          | 1111001 | 171          | У     |
| 26      | 1A          |        | 32    | [SUBSTITUTE]           | 74      | 4A          | 1001010 | 112   | J    | 122     | 7A          | 1111010 | 172          | z     |
| 27      | 1B          | 11011  | 33    | [ESCAPE]               | 75      | 4B          | 1001011 | 113   | K    | 123     | 7B          | 1111011 | 173          | {     |
| 28      | 1C          | 11100  | 34    | [FILE SEPARATOR]       | 76      | 4C          | 1001100 | 114   | L    | 124     | 7C          | 1111100 | 174          | 1     |
| 29      | 1D          | 11101  | 35    | [GROUP SEPARATOR]      | 77      | 4D          | 1001101 |       | M    | 125     | 7D          | 1111101 |              | }     |
| 30      | 1E          | 11110  | 36    | [RECORD SEPARATOR]     | 78      | 4E          | 1001110 | 116   | N    | 126     | 7E          | 1111110 | 176          | ~     |
| 31      | 1F          | 11111  |       | [UNIT SEPARATOR]       | 79      | 4F          | 1001111 | 117   | 0    | 127     | 7F          | 1111111 | 177          | [DEL] |
| 32      | 20          | 100000 | 40    | [SPACE]                | 80      | 50          | 1010000 | 120   | P    |         |             |         |              |       |
| 33      | 21          | 100001 |       | 1                      | 81      | 51          | 1010001 |       | Q    | 1       |             |         |              |       |
| 34      | 22          | 100010 | 42    | н                      | 82      | 52          | 1010010 | 122   | R    | 1       |             |         |              |       |
| 35      | 23          | 100011 | 43    | #                      | 83      | 53          | 1010011 | 123   | S    | 1       |             |         |              |       |
| 36      | 24          | 100100 | 44    | \$                     | 84      | 54          | 1010100 | 124   | т    | 1       |             |         |              |       |
| 37      | 25          | 100101 |       | %                      | 85      | 55          | 1010101 |       | U    | 1       |             |         |              |       |
| 38      | 26          | 100110 |       | &                      | 86      | 56          | 1010110 |       | V    | 1       |             |         |              |       |
| 39      | 27          | 100111 | 47    | 1                      | 87      | 57          | 1010111 | 127   | w    | 1       |             |         |              |       |
| 40      | 28          | 101000 | 50    | (                      | 88      | 58          | 1011000 | 130   | X    | 1       |             |         |              |       |
| 41      | 29          | 101001 | 51    | )                      | 89      | 59          | 1011001 | 131   | Y    | 1       |             |         |              |       |
| 42      | 2A          | 101010 |       | *                      | 90      | 5A          | 1011010 |       | z    |         |             |         |              |       |
| 43      | 2B          | 101011 |       | +                      | 91      | 5B          | 1011011 |       | [    |         |             |         |              |       |
| 44      | 2C          | 101100 |       | ,                      | 92      | 5C          | 1011100 |       | 1    |         |             |         |              |       |
| 45      | 2D          | 101101 |       | -                      | 93      | 5D          | 1011101 |       | 1    |         |             |         |              |       |
| 46      | 2E          | 101110 |       |                        | 94      | 5E          | 1011110 |       | ~    |         |             |         |              |       |
| 47      | 2F          | 101111 | 57    | 1                      | 95      | 5F          | 1011111 | 137   | -    | 1       |             |         |              |       |

### TIME TRIGGERS WITH CLOCK AND CALENDAR

The Stand Alone mode has an internal clock and a calendar. It's possible to assign a time trigger on every scene of the list. By selecting a scene on the list, it's possible to choose the start and end dates and hours and days of the week. You can thus create a lot of scenarios.

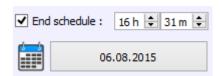
### CASE 1: Programming an unique trigger:

• Start schedule:



The scene is triggered a single time at the given date and time.

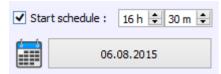
• End schedule:



The scene is stopped at the given date and time.

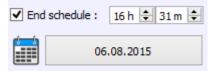
### CASE 2: Programming a repeating trigger:

• Start schedule:



Date from which-one the scene will be playable according to the programmed triggers

• End schedule:



Date after witch-one triggers will be ignored. With no End date, triggers are permanent

### • List of the months of the year

V J F V M A V M J V J A V S O V N D

The 12 check boxes represents the 12 months of the year (J) January to (D) December. The triggers will be performed on the activated months. Next, a daily hours range must be defined.

### • Start and Stop days

Day Start : 01 

Day Stop : 15

With a monthly repetition, you can choose the starting and stoping days for each chosen month. In this example triggers can happen between the 1<sup>st</sup> and the 15<sup>th</sup> of each chosen month.

### • List of the days of the week

| <ul> <li>Mon.</li> </ul> | ✓ Tue. | ✓ Wed. | 🖌 Thu. | ✓ Fri. | ✓ Sat. | ✓ Sun. |
|--------------------------|--------|--------|--------|--------|--------|--------|
|--------------------------|--------|--------|--------|--------|--------|--------|

The 7 check boxes represents the 7 days in a week. The triggers will be performed on the activated days only. Next, a time range must be defined.

• Start time

| Start Time : | 11 h 🖨 30 m 🖨 |
|--------------|---------------|
|--------------|---------------|

The starting time is the time when the scene will be triggered for each chosen day. Of course chosen months, start and end schedule days are included.

• Release time

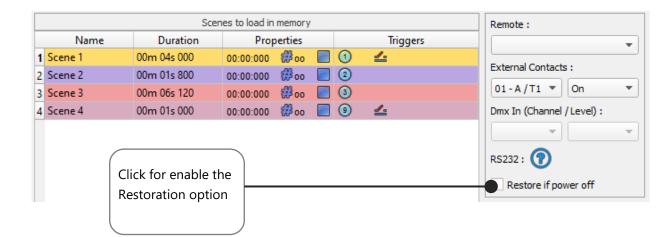
🗹 Release Time : 🛛 18 h 🖨 0 m 🖨

The release time is the time when the scene will stop for each chosen day. Of course chosen months, start and end schedule days are included. The release time is not mandatory, if it's not defined, the scene will keep playing until another trigger event happens. (Like the triggering of another scene for example).

**NOTE**: For a daily repetition, if the the starting time is later than the release time then the triggering will stopped the next day, even if the next day has not been selected.

### SAVE AND RECOVER THE LAST SCENE AFTER THE POWER CUT OFF:

The interface can save the last scene played before the power cut off and recover it when the power is restored.



For each scene you can select "Restore if power off"

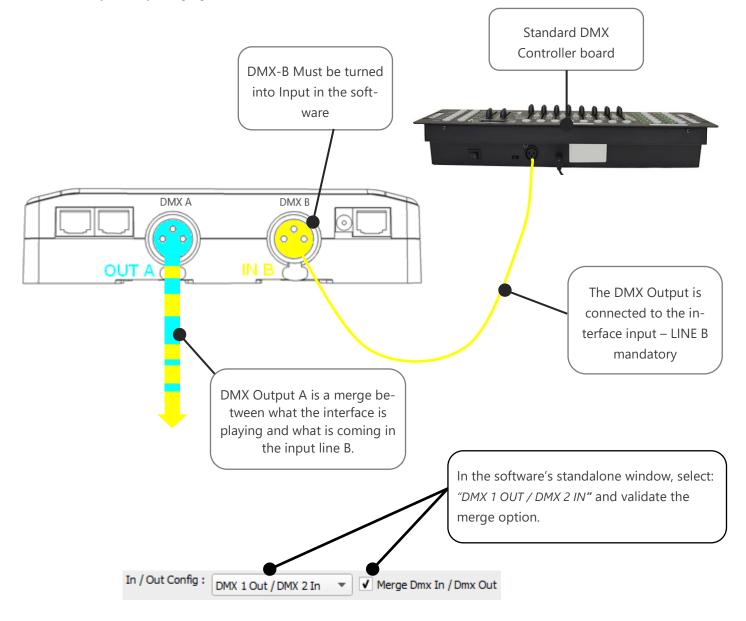
### SCENE TRIGGER PRIORITIES:

When several scenes have the same time trigger (date + hour + minute), only the first scene in the list will be triggered. The rest will be ignored

## DMX MERGING IN STANDALONE

One DMX line must be turned into an input to capture the dmx signal provided by an external DMX board or by another DMX interface.

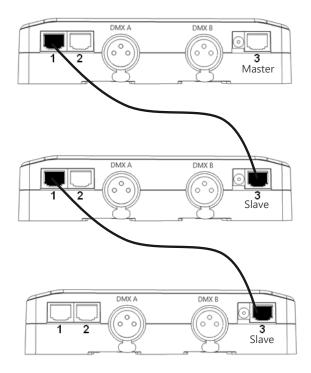
The interface will merge the input signal with its own output signal by comparing DMX levels with a HTP filter. Merging is a solution to keep manual control on channels, using a DMX Board for example. It's also a way to create a multi-zones system by merging several interfaces on one final DMX line.

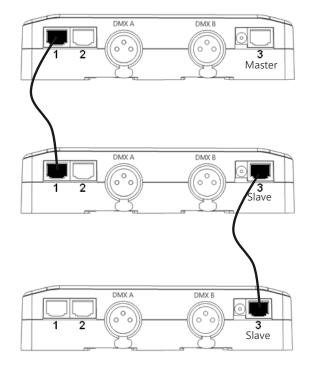


## CONFIGURATION OF THE MASTER/SLAVE INTERFACES

When multiple interfaces are connected with USB, the standalone mode allows to set them as Master/Slave. This mode allows to synchronise many interfaces and mutualize their standalone spaces combining the universes. (up to 32 standalone universes )

Here is two different example or wiring with 3 interfaces plugged as Master/Slave with standard Ethernets cables. You must connect Ethernet sockets 1 or 3 in any order:





### SETTING OF THE MASTER/SLAVE INTERFACES

When multiple interfaces are connected with USB, the standalone mode allows to set them as Master/Slave. This mode allows to synchronize many interfaces and mutualize their standalone spaces combining the universes. (Up to 32 standalone universes)

A single interface can be define as master, others are automatically set to slaves. Triggers operated on the master interface are passed on slaves. However slaves are not synchronized on play time and keep individual control. Consequently slaves can trig and play different scenes. The master acts like a general remote imposing triggering to the slaves.

| Devices                     | 🕲 In / Out Config 🛛 Clock 🕲 Options 🐻 Master / Slave   |
|-----------------------------|--|
| Device #1 : CQSA 512 B07306 |  |
| Device #2 : CQSA 512 B07328 | Mode : Master  Master Slave Default Desynchronized LTP |

### MODE MASTER/SLAVE « Default »

A single interface can be define as master (lower serial number by default), others ones are automatically set to slaves. The master device play the current scene and synchronize the slave ones. The master forces the slave interfaces to play the same scene and the same step at the same time. The slave interfaces are forced to follow the master timings and triggers and they cannot act, play or trigger a scene independently. Master can trigger on and trigger off scenes of the slave interfaces.

### • MODE MASTER/SLAVE « Desynchronized»

An interface can be define as master, others are automatically set to slaves. All Triggers On or Off operated on the master interface are effective to slave ones. However slave interfaces are not synchronized with master's timing and keep individual controls. Consequently slaves can trigger and play different scenes at any time and not synchronized with the master ones. The master acts like a general remote imposing triggering to the slaves with total priority. Master can trigger ON and trigger OFF scenes of the slave interface.

### • MODE MASTER/SLAVE « LTP »

LTP means Latest Takes Priority. All interfaces are defined as slaves. Interfaces are not synchronized with timing and can trigger and play different scenes by itself. However triggers from an interface are passed to the others connected interfaces automatically and slave interfaces are forced to trigger the same scene. Here each interface acts like a general remote imposing triggering to the other slaves without synchronization.

### • THE «NO RELEASE» Option

This option is only available with LTP or DESYNCHRONIZED modes. Only triggers ON from the master interface are executed and effective. All triggers OFF are ignored and slaves interfaces keep playing their current scene. Each Slave interface can choose to release or not its scene depend on the option is activated or not.

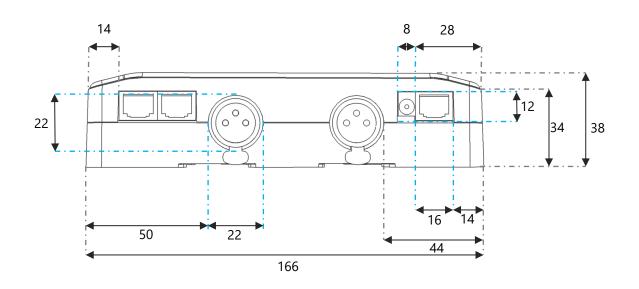
## BATTERY

The included battery allow to keep the clock and calendar settings in memory when the device is not powered. The device must be powered at least 30 min for fully charge the battery.

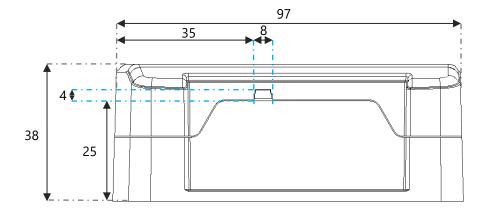
## DIMENSIONS OF THE INTERFACE

The metric system is used. The unit is mm.

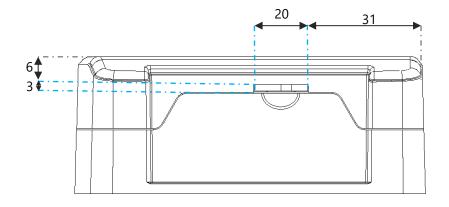
### TOP FACE



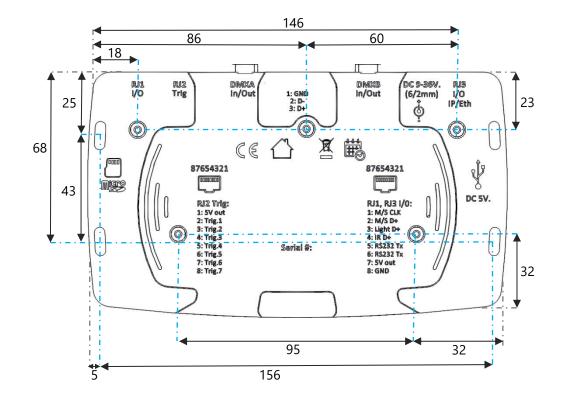
## SIDE FACES



Datasheet - Standalone Interfaces USB-DMX 512 and 1024 channels



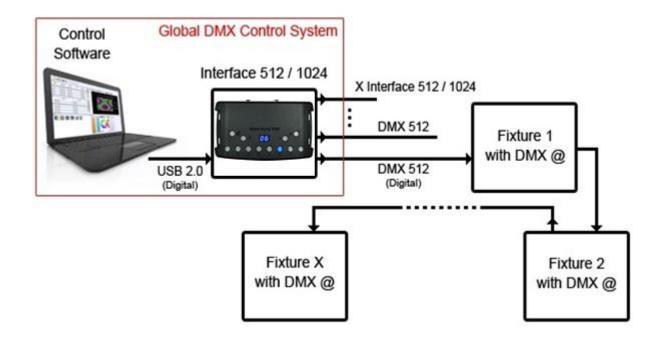
BOTTOM FACE



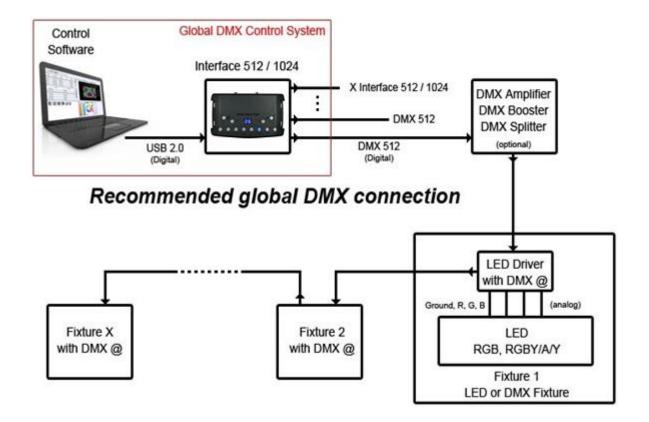
## Example of Multiple interface connections

|   | Computer:<br>MAC OS X<br>Windows |     | USB 1<br>USB 2 | CQSA<br>1024<br>CQSA<br>1024 | DMX 1<br>DMX 2<br>DMX 3<br>DMX 4 |                |
|---|----------------------------------|-----|----------------|------------------------------|----------------------------------|----------------|
| _ | USB                              |     |                | USB 3                        | CQSA<br>1024                     | DMX 5<br>DMX 6 |
|   | USB                              | нив |                |                              |                                  |                |
|   |                                  |     |                | USB 4                        | -CQSA 512                        | DMX 7          |
|   |                                  |     |                | USB 5                        | CQSA 512                         | DMX 8          |
|   |                                  |     |                | USB 6                        |                                  | DMX 9          |

## STANDARD DMX 512 INSTALLATION



## **RECOMMENDED DMX512 INSTALLATION**



CE