

## BB&S Bi-Color & Single Color Controller Manual

Software version: 4\_1\_00

June-2022



## **Index:**

<b>Page</b>	<b>2 - Index</b>
<b>Page</b>	<b>3 - Hardware info</b>
<b>Page</b>	<b>5 - Introduction</b>
<b>Page</b>	<b>6 - Default settings</b>
<b>Page</b>	<b>7 - Manual operation</b>
<b>Page</b>	<b>8 - DMX Operation</b>
<b>Page</b>	<b>8 - Tweaking</b>
<b>Page</b>	<b>9 - Setup features</b>
<b>Page</b>	<b>9 - Presets</b>
<b>Page</b>	<b>10 - Menu tree</b>
<b>Page</b>	<b>12 - DMX Channels</b>
<b>Page</b>	<b>14 - FAQ</b>

## **Intro:**

Brother, Brother & Sons ApS

The information in this manual is subject to change without notice.

Brother, Brother & Sons ApS assumes no responsibility for any errors or inaccuracies that may appear in this manual.

All information and graphics are the property of Brother, Brother & Sons ApS.

## **RMA:**

When returning an item please enclose

a.: Model and Serial number.

b.: A description of the problem

c.: The name of the owner of the equipment.

d.: If available please include a copy of your invoice to establish the date of sale and the beginning of the warranty period.

## **Disposing of this product:**

Help preserve the environment! Ensure that this product is recycled at the end of its life.

This product is in compliance with the RoHS and WEEE directives.

## **Safety Notice:**

It is important to read ALL safety information and instructions in this manual before installing and operating the product described.

## **WARNING:**

This product is for professional use only and has been designed for indoor use. Exposure to moisture may cause damage to the product and will void your warranty.

Do not operate the product if the ambient temperature exceeds 40°C / 104°F

Do not mount on flammable surface.

Ensure that the fixture is electrically connected to ground (earth)

Only use this product if all cables, connectors, and the product itself are undamaged.

## **SERVICE:**

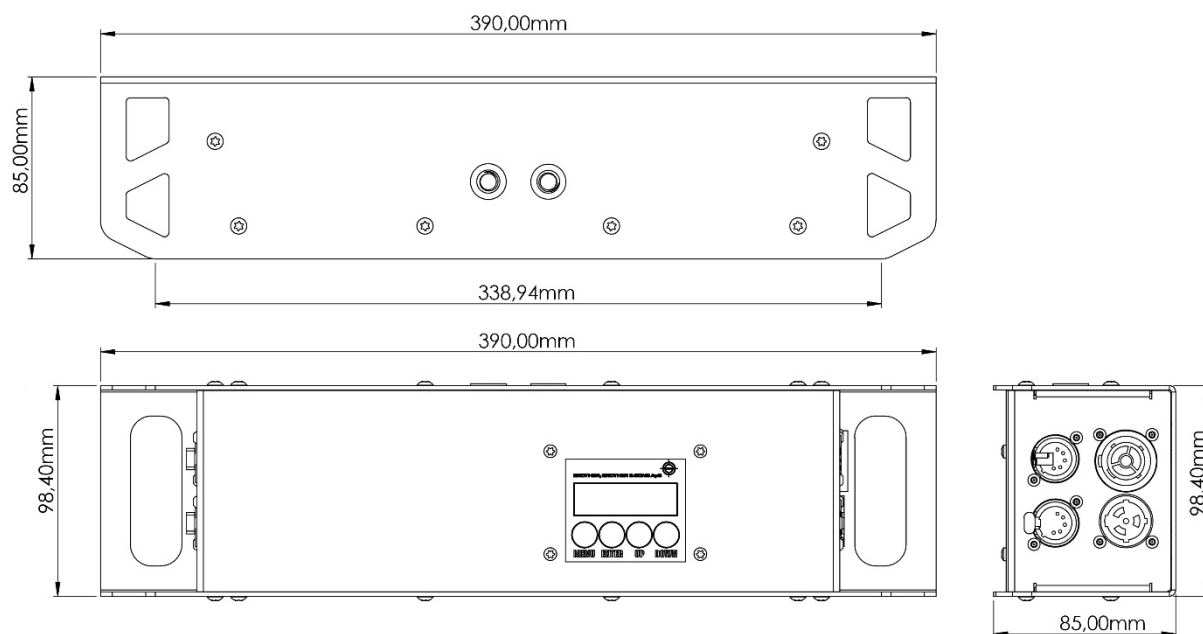
Servicing is to be performed only by qualified personnel. Take precautions to avoid ESD damage during service.

Disconnect the power before servicing the product.

## **POWER:**

Never connect to dimmer power. Make sure the local power voltage is within the range specified.

## Hardware Info:



## Tech Specs

### BB&S Single Color Controller

Model: Single Color Controller 4x3-Pin  
Reference: BBS3693  
AC Power IN: 100-277V - 50/60Hz  
Power Link: Max. 100-240V/16A  
Outputs: 4x 40VDC - 1050Ma  
Rated Power: 190W  
DMX512/RDM

### BB&S Bi-Color Controller

Model: Bi-Color Controller 2x4-Pin  
Reference: BBS3694  
AC Power IN: 100-277V - 50/60Hz  
Power Link: Max. 100-240V/16A  
Outputs: 2x2 40VDC - 1050Ma  
Rated Power: 190W  
DMX512/RDM

### Thermal:

Maximum ambient temperature - t.Amb: 40° C / 104° F

Specifications subject to change without notice. For the latest specifications see [www.brothers-sons.dk](http://www.brothers-sons.dk)

### Data:

This product uses a 5-pin XLR for dmx input and output.

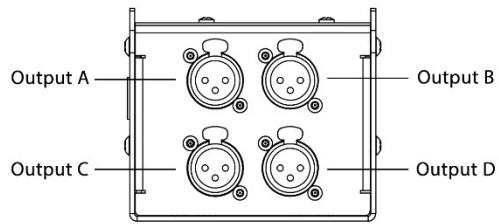
Use shielded data cables.

Do not overload the daisy chain. Up to a maximum of 32 devices can be used on a single dmx chain.

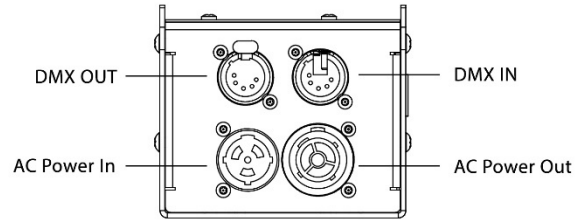
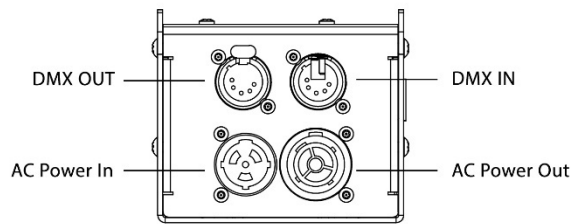
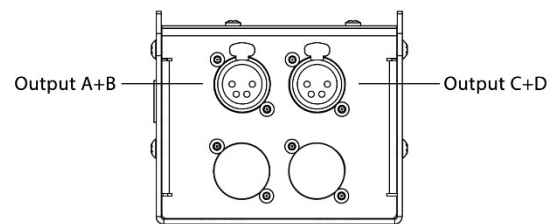
Protocol: USITT DMX512-A

## BB&S Controller I/O

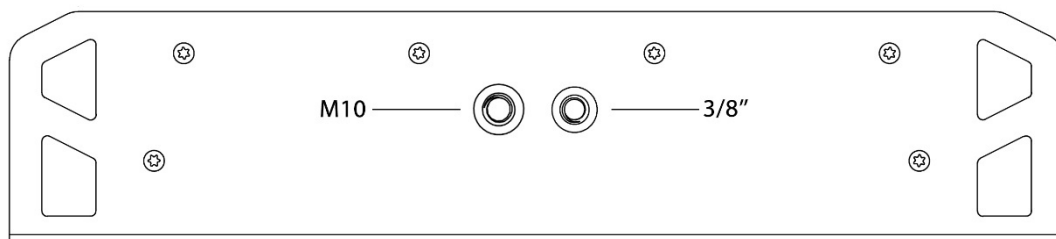
Single Color Controller I/O



Bi-Color Controller I/O



## BB&S Controller Mounting



## Introduction:

- A. The BB&S Single Color & Bi-Color Controllers fixture list:**
- B. The Controllers has 2 to 3 basic functions**
- C. The Controllers has 6 different modes**

### A. BB&S Fixture List

BB&S Single Color Controller	
Pipeline Raw 1-Foot	4 pcs
Pipeline Raw 2-Foot	4 pcs
Pipeline Raw 3-Foot	4 pcs
Pipeline Raw 4-Foot	4 pcs
Pipeline Raw 2-Foot 2-Bank	4 pcs
Pipeline Raw 1-Foot 4-Bank	4 pcs
Pipeline Reflect 1-Foot	4 pcs
Pipeline Reflect 2-Foot	4 pcs
Pipeline Reflect 3-Foot	4 pcs
Pipeline Reflect 4-Foot	4 pcs
Pipeline Reflect 6-Foot	2 pcs
Pipeline Reflect 8-Foot	2 pcs
Pipeline Reflect 2-Foot 2-Bank	4 pcs
Pipeline Reflect 4-Foot 2-Bank	2 pcs
Pipeline Reflect 6-Foot 2-Bank	1 pcs
Pipeline Reflect 8-Foot 2-Bank	1 pcs
Compact Beamlight Single Color	4 pcs
Compact Fresnel Light Single Color	4 pcs

BB&S Bi-Color Controller	
Reflect Bi-Color 2-Foot	2 pcs
Reflect Bi-Color 4-Foot	2 pcs
Reflect Bi-Color 2-Foot 2-Bank	2 pcs
Reflect Bi-Color 4-Foot 2-Bank	1 pcs
Compact Beamlight Bi-Color	2 pcs
Compact Fresnel Light Bi-Color	2 pcs

### B. Basic functions:

- 1. Intensity**
- 2. Strobe**
- 3. Color tweaking** from 3200K to 5600K + Bi-Color (2700K – 5600K)

#### 1. Intensity/Dimming has various options:

Resolution:

- 8 bit: Uses only 1 channel
- 16 bit: High resolution dimming, but uses 2 channels.

Control:

Manual: Manually operated via the display on the back  
DMX: DMX controlled

**2.** Strobe can be controlled via DMX, but not manually. If set to *ON* the strobe function will take up 2 channels.

#### 3. Color tweaking.

When connecting 3200K and 5600K pipes, you have the option to use the tweaking function.

You can set it to either:

CCT 8 bit: Uses only 1 channel

or CCT 16 bit: High resolution tweaking, but uses 2 channels.

When Connecting a CBL-1 Bi-Color you have the option to use the Bi-color Mode.

You can set either:

BI 8-Bit – See more info in the DMX Chart

Bi 16-Bit See more info in the DMX Chart

**C. Modes** (can be set in the menu under Setup/Modes:)

**BI 8bit** - Color Tweak from 2700K - 5600K

**BI 16bit** - High Resolution Intensity and Color Tweak from 2700K - 5600K

**CCT 8bit** - Color Tweak from 3200K - 5600K

*Can be selected for any pipe combination, but only works with 3200/5600K pipes combination)*

*(4300K and unknown tubes will not switch on when using CCT mode.)*

**CCT 16bit** - High Resolution Intensity and Color Tweak from 3200K - 5600K

*Can be selected for any pipe combination, but only works with 3200/5600K pipes combination)*

*(4300K and unknown tubes will not switch on when using CCT mode.)*

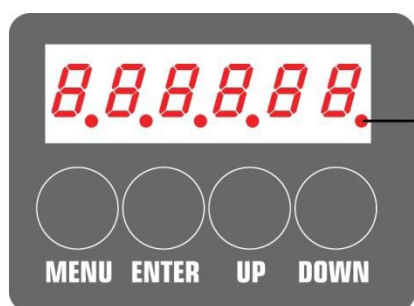
**Ind 8** - Individual control of all four tubes

**Ind 16** - High Resolution control of all four tubes

**All 8** - Control all tubes as one

**All 16** - High resolution control of all tubes as one

(See DMX Channel chart for information channel usage)



**Indicator and DMX signal available dots.**

Indicates if a change has been made from the default setting

1 : Mode / Resolution

2 : Response

3 : Curve

4 : Strobe

5 : -----

6 : DMX Signal available

## Default settings:

When receiving the controlbox or when resetting it, the default settings are:

DMX Address: 001

DMX resolution: All 16 bit - Smooth dimming

Response: Slow - The slow response makes dimming more smooth.

Curve: Square - The dimming curve is adjusted for LEDs.

Strobe: OFF - Strobe is disabled.

NO DMX: Hold - If DMX signal is lost, the Pipeline 4 Way Controller will hold the last received DMX values.

Display: ON - Display is always on

### Reset

The unit can be reset to default from the menu or by pressing and holding the menu button within the first 5 seconds after switching on the power until the display reads: RESET

Reset does not affect: Calibration values, Color settings, Length or Manual Values

### Display orientation

The display readout can be flipped upside down by pressing the UP and DOWN buttons simultaneously.

### Start up

At powerup there is a delay of 5 seconds before the unit is operational.

Display reads out DMX address if DMX signal is present or goes to manual mode.

### Software version

This information can be found under tools in the menu

## SETUP FEATURES EXPLAINED

### Mode:

All: Controls all pipes as one  
Ind: Controls all pipes individually  
CCT: An overall light level and color balance can be set  
BI: Control 2 CBL Bi-color on two channels.

8 bit: Less DMX channels used.  
16 bit: Smoother resolution.

### Response:

Slow: Fades between values. Smoother fades.  
Fast: Snaps between values. Fast operation.

### Curve:

Square: Dimmer curve designed for LEDs  
Linear: Standard dimmer curve

### Strobe:

OFF: Less DMX channels used.  
ON: Strobe function added.

### noDMX:

HOLD: If DMX signal is lost, the unit will maintain the last value received.  
OFF: If DMX signal is lost, the unit will go to 0% light level.  
MAN: If DMX signal is lost, the unit will go to the saved manual light level

### Display:

OFF 2n: The display will switch off after 2 minutes of idle operation.  
ON: The display will always be on.

## Bi-Color Presets **New in 4.0.0**

The new "Preset menu" allows for quick setup of the new BB&S Bi-Color products.

1. First you must choose a preset bank: "Bi-Color 8-Bit" or "Bi-Color 16-Bit"
2. Select the channels to set up your bicolor Fixture: "Ch. A+B" & "Ch. C+D"
3. Select your fixture from the list of options.
  - a. 2-Foot = Reflect Bi-Color 2-Foot
  - b. 4-Foot = Reflect Bi-Color 4-Foot
  - c. 2-Foot 2-Bank = Reflect Bi-Color 2-Foot 2-Bank
  - d. 4-Foot 2-Bank = Reflect Bi-Color 4-Foot 2-Bank (Note# Uses all 4 Channels)
  - e. CBL = Compact Beamlight Bi-Color
  - f. CFL = Compact Fresnel Light Bi-Color
4. Press "Enter" to proceed to the next Channel
5. Repeat step 3
6. Confirm to save settings.

After confirming the settings, we have now successfully setup, Mode, Length & Color on all channels and ready to plug in our fixtures. Note if any settings are changed manually the Preset will be set to "non".

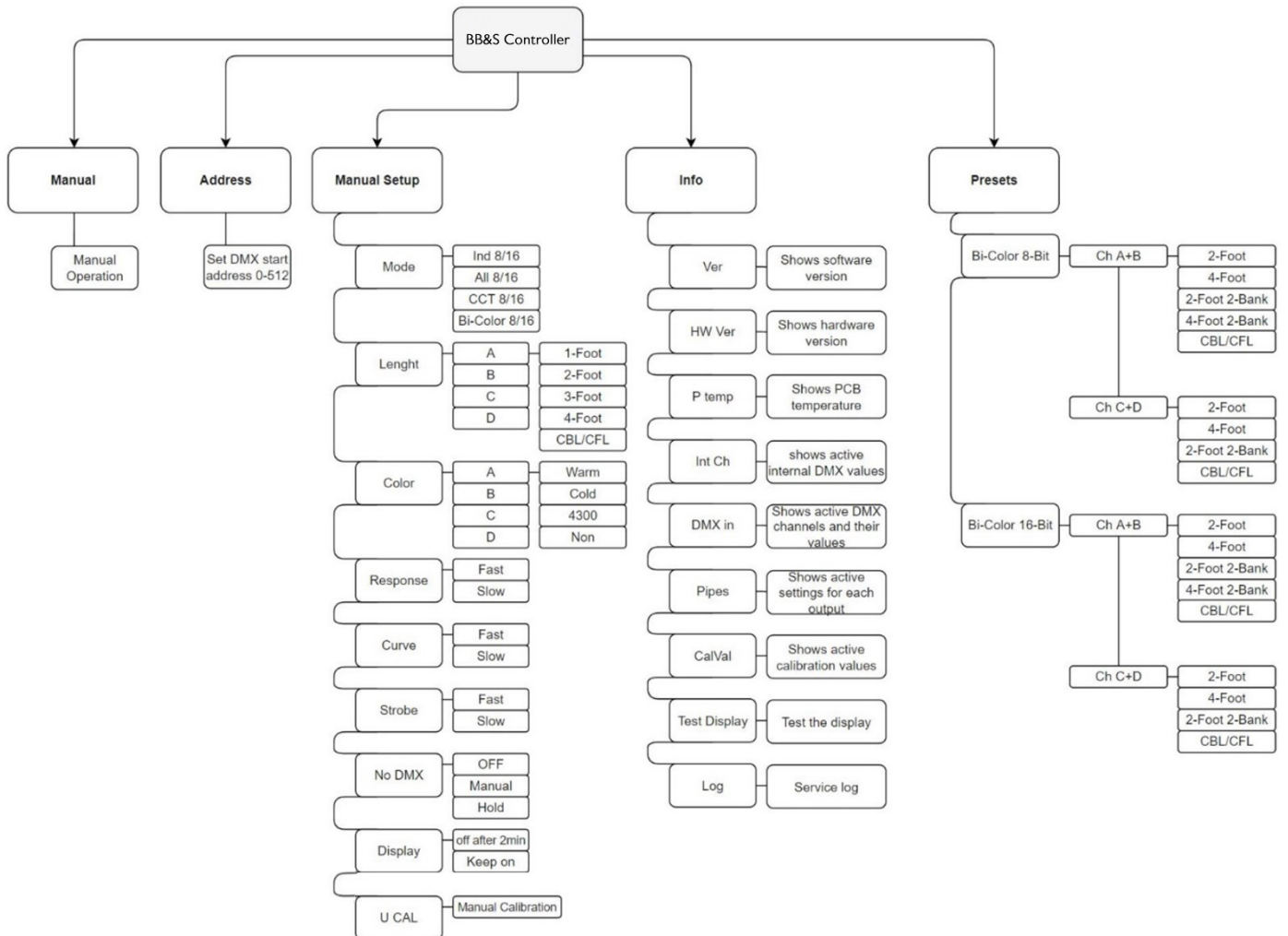
See the Bi-Mode DMX chart for the DMX Profile in either "BI 8-Bit" or "Bi-16-Bit".

If strobe needs to be enabled this can be done from the manual setup menu adding the strobe channels to the existing DMX profile.

## MENU TREE

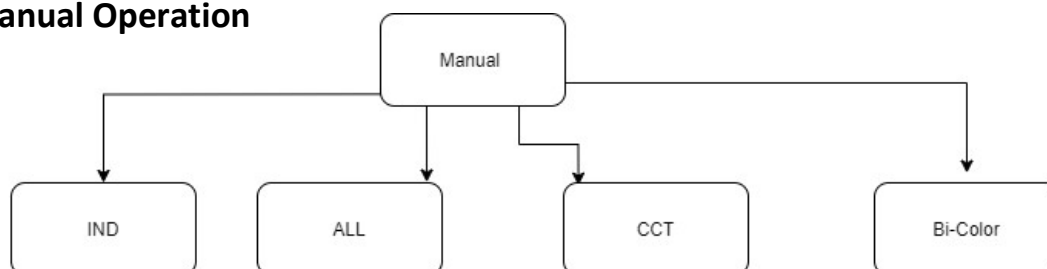
### Button actions:

**Menu:** In and out of Menus - **Up+Down:** Navigate and change values - **Enter:** Select and Save





## Manual Operation



### Individual

To Control the individual pipes  
Select dimming from 0-100%  
Press enter to move to next Channel

### ALL

In all mode all channels runs on a single dimmer.  
Select dimming from 0-100%  
Press Enter to accept

### CCT

In CCT mode you need to remember to set COLOR for channel A,B,C & D in the COLOR menu in Setup.

Press enter to set Dimming from 0-100%

Press enter again to tweak from 3200K-5600K with the Up & Down Buttons

### Bi-Color

In BI mode you need to remember to set COLOR for channel A,B,C & D in the COLOR menu in Setup

The BI Color mode runs on two Channels.

Press enter to set Dimming from 0-100% on Channel A (A+B)

Press enter again to tweak from 2700K-5600K with the Up & Down Buttons

Press enter to set Dimming from 0-100% on channel B (C+D)

Press enter again to tweak from 2700K-5600K with the Up & Down Buttons

## DMX Channels:

Mode	Channel	Parameter	Function	Value	Percent
<b>Bi-Color 8 bit</b>	1	Intensity A	Intensity - Coarse	0 - 255	0 - 100
	2	Color A	Warm White - Cold White	0 - 255	0 - 100
	3	Intensity B	Intensity - Coarse	0 - 255	0 - 100
	4	Color B	Warm White - Cold White	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>Bi-Color 8 bit - Strobe ON</b>	1	Intensity A	Intensity - Coarse	0 - 255	0 - 100
	2	Color A	Warm White - Cold White	0 - 255	0 - 100
	3	Intensity B	Intensity - Coarse	0 - 255	0 - 100
	4	Color B	Warm White - Cold White	0 - 255	0 - 100
	5	Strobe Mode	Open	0 - 5	0
			Fast to Slow Strobe	6 - 125	1 - 49
			Open	126 - 130	50
			Slow to Fast Strobe - Random	131 - 250	51 - 99
			Open	251 - 255	100
	6	Strobe Length	Short to Long Flash	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>Bi-Color 16 bit</b>	1	Intensity A	Intensity - Coarse	0 - 255	0 - 100
	2	Intensity A	Intensity - Fine	0 - 255	0 - 100
	3	Color A	Warm White - Cold White - Coarse	0 - 255	0 - 100
	4	Color A	Warm White - Cold White - Fine	0 - 255	0 - 100
	5	Intensity B	Intensity - Coarse	0 - 255	0 - 100
	6	Intensity B	Intensity - Fine	0 - 255	0 - 100
	7	Color B	Warm White - Cold White - Coarse	0 - 255	0 - 100
	8	Color B	Warm White - Cold White - Fine	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>Bi-Color 16 bit - Strobe ON</b>	1	Intensity A	Intensity - Coarse	0 - 255	0 - 100
	2	Intensity A	Intensity - Fine	0 - 255	0 - 100
	3	Color A	Warm White - Cold White - Coarse	0 - 255	0 - 100
	4	Color A	Warm White - Cold White - Fine	0 - 255	0 - 100
	5	Intensity B	Intensity - Coarse	0 - 255	0 - 100
	6	Intensity B	Intensity - Fine	0 - 255	0 - 100
	7	Color B	Warm White - Cold White - Coarse	0 - 255	0 - 100
	8	Color B	Warm White - Cold White - Fine	0 - 255	0 - 100
	9	Strobe Mode	Open	0 - 5	0
			Fast to Slow Strobe	6 - 125	1 - 49
			Open	126 - 130	50
			Slow to Fast Strobe - Random	131 - 250	51 - 99
			Open	251 - 255	100
	10	Strobe Length	Short to Long Flash	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>CCT 8 bit</b>	1	Intensity	Intensity	0 - 255	0 - 100
	2	Color	Warm White - Cold White	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>CCT 8 bit - Strobe ON</b>	1	Intensity	Intensity	0 - 255	0 - 100
	2	Color	Warm White - Cold White	0 - 255	0 - 100
	3	Strobe Mode	Open	0 - 5	0
			Fast to Slow Strobe	6 - 125	1 - 49
			Open	126 - 130	50
			Slow to Fast Strobe - Random	131 - 250	51 - 99
			Open	251 - 255	100
	4	Strobe Length	Short to Long Flash	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>CCT 16 bit</b>	1	Intensity	Intensity - Coarse	0 - 255	0 - 100
	2	Intensity	Intensity - Fine	0 - 255	0 - 100
	3	Color	Warm White - Cold White - Coarse	0 - 255	0 - 100
	4	Color	Warm White - Cold White - Fine	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>CCT 16 bit - Strobe ON</b>	1	Intensity	Intensity - Coarse	0 - 255	0 - 100
	2	Intensity	Intensity - Fine	0 - 255	0 - 100
	3	Color	Warm White - Cold White - Coarse	0 - 255	0 - 100
	4	Color	Warm White - Cold White - Fine	0 - 255	0 - 100
	5	Strobe Mode	Open	0 - 5	0
			Slow to Fast Strobe	6 - 125	1 - 49
			Open	126 - 130	50
			Slow to Fast Strobe - Random	131 - 250	51 - 99
			Open	251 - 255	100
	6	Strobe Length	Short to Long Flash	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>Individual 8 bit</b>	1	Intensity	Intensity Pipe A	0 - 255	0 - 100
	2	Intensity	Intensity Pipe B	0 - 255	0 - 100
	3	Intensity	Intensity Pipe C	0 - 255	0 - 100
	4	Intensity	Intensity Pipe D	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>Individual 8 bit - Strobe ON</b>	1	Intensity	Intensity Pipe A	0 - 255	0 - 100
	2	Intensity	Intensity Pipe B	0 - 255	0 - 100
	3	Intensity	Intensity Pipe C	0 - 255	0 - 100
	4	Intensity	Intensity Pipe D	0 - 255	0 - 100

	5	Strobe Mode	Open	0 - 5	0
			Slow to Fast Strobe	6 - 125	1 - 49
			Open	126 - 130	50
			Slow to Fast Strobe - Random	131 - 250	51 - 99
			Open	251 - 255	100
	6	Strobe Length	Short to Long Flash	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>Individual 16 bit</b>	1	Intensity	Intensity Pipe A - Coarse	0 - 255	0 - 100
	2	Intensity	Intensity Pipe A - Fine	0 - 255	0 - 100
	3	Intensity	Intensity Pipe B - Coarse	0 - 255	0 - 100
	4	Intensity	Intensity Pipe B - Fine	0 - 255	0 - 100
	5	Intensity	Intensity Pipe C - Coarse	0 - 255	0 - 100
	6	Intensity	Intensity Pipe C - Fine	0 - 255	0 - 100
	7	Intensity	Intensity Pipe D - Coarse	0 - 255	0 - 100
	8	Intensity	Intensity Pipe D - Fine	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>Individual 16 bit - Strobe ON</b>	1	Intensity	Intensity Pipe A - Coarse	0 - 255	0 - 100
	2	Intensity	Intensity Pipe A - Fine	0 - 255	0 - 100
	3	Intensity	Intensity Pipe B - Coarse	0 - 255	0 - 100
	4	Intensity	Intensity Pipe B - Fine	0 - 255	0 - 100
	5	Intensity	Intensity Pipe C - Coarse	0 - 255	0 - 100
	6	Intensity	Intensity Pipe C - Fine	0 - 255	0 - 100
	7	Intensity	Intensity Pipe D - Coarse	0 - 255	0 - 100
	8	Intensity	Intensity Pipe D - Fine	0 - 255	0 - 100
	5	Strobe Mode	Open	0 - 5	0
			Slow to Fast Strobe	6 - 125	1 - 49
			Open	126 - 130	50
			Slow to Fast Strobe - Random	131 - 250	51 - 99
			Open	251 - 255	100
	6	Strobe Length	Short to Long Flash	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>All 8 bit</b>	1	Intensity	Intensity	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>All 8 bit - Strobe ON</b>	1	Intensity	Intensity	0 - 255	0 - 100
	2	Strobe Mode	Open	0 - 5	0
			Slow to Fast Strobe	6 - 125	1 - 49
			Open	126 - 130	50
			Slow to Fast Strobe - Random	131 - 250	51 - 99
			Open	251 - 255	100
	3	Strobe Length	Short to Long Flash	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>All 16 bit</b>	1	Intensity	Intensity - Coarse	0 - 255	0 - 100
	2	Intensity	Intensity - Fine	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent
<b>All 16 bit - Strobe ON</b>	1	Intensity	Intensity - Coarse	0 - 255	0 - 100
	2	Intensity	Intensity - Fine	0 - 255	0 - 100
	3	Strobe Mode	Open	0 - 5	0
			Slow to Fast Strobe	6 - 125	1 - 49
			Open	126 - 130	50
			Slow to Fast Strobe - Random	131 - 250	51 - 99
			Open	251 - 255	100
	4	Strobe Length	Short to Long Flash	0 - 255	0 - 100

## FAQ - TROUBLE SHOOTING

### **Power is on but the display is not**

1. Press a button to activate, if Display has been set to **"Off after 2 minutes"**
2. Check if the light is on in your PSU

### **The luminaire is flashing**

1. Check to see if you have set it for strobing.
2. Check your patch
3. You are in the Color or Length menu

### **In manual mode "ENTER" only switches between "MANUAL" and the saved light level in the display, but not in the output.**

1. Check that **"noDMX"** is not set to **"Man"**

### **The Pipeline 4 way controller does not respond to DMX**

1. Is a DMX cable correctly connected to DMX IN
2. Is the "DMX present" indicator ON
3. Check under **"DMX In"** in the menu under **"Tools"** if the unit receives any DMX values on the respective channels.

### **Some or all pipes do not switch on**

1. You are in **"CCT8/CCT16"** mode and the pipe Color is set to **"4300K"**, **"None"** or **"Unknown"**
2. You have by accident set the pipe Color to **"none"**