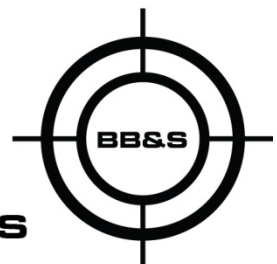


PIPELINE SYSTEM 4 WAY CONTROLLER MANUAL

BROTHER, BROTHER & SONS ApS



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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.

Customer and Warranty service:

Contact your regional dealer. Contact information for your area can be found at www.brothers-sons.dk

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.

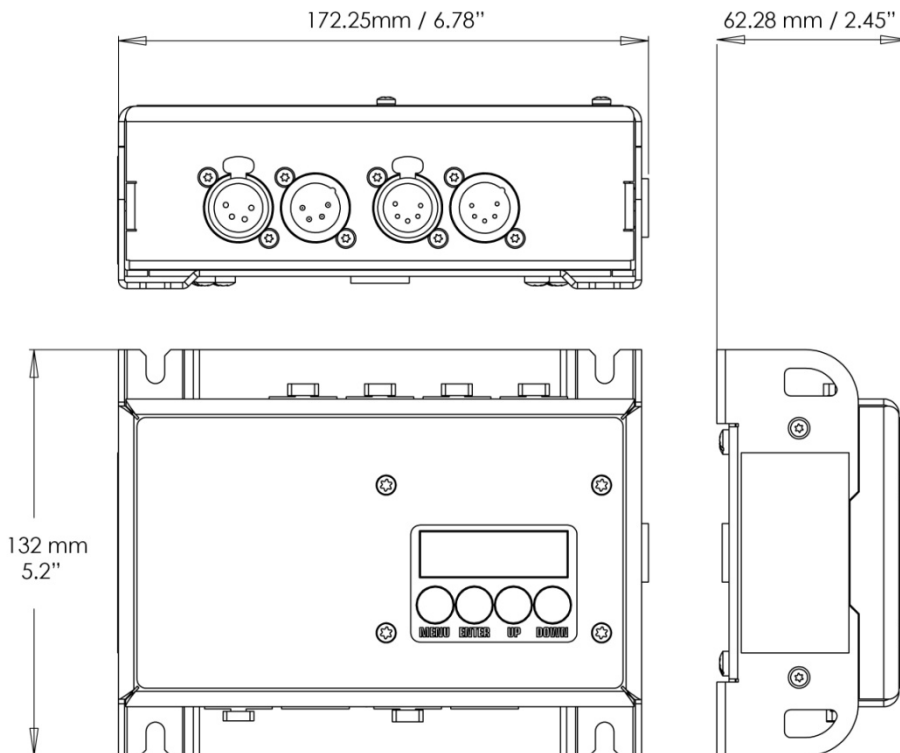
Disconnect the power before servicing the product.

POWER:

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

Hardware Info:

Pipeline System 4 Way Controller dimensions



Pipeline 4 Way Controller:

AC Power: 100 – 240 V nominal, 50/60 Hz

Never connect to dimmer power

Powersupply: Electronic switchmode

This fixture must be connected to ground.

48 Volt

PSU IN Pin assignment: Pin 1: GND / PIN 4: +

Controlbox: 0.69 kg / 1.52 lbs

Max: 144W

Pipeline Raw pin assignment:

Pin 2: Red +

Pin 1: Blue GND

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

Data:

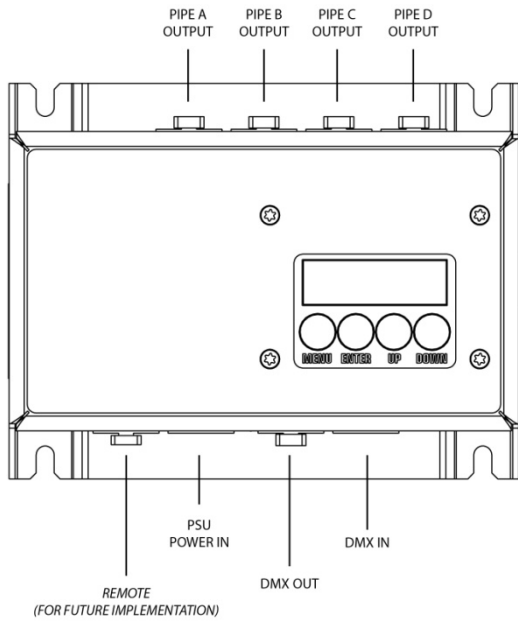
This product uses a 5-pin XLR for dmx input and output.

Use shielded data cables.

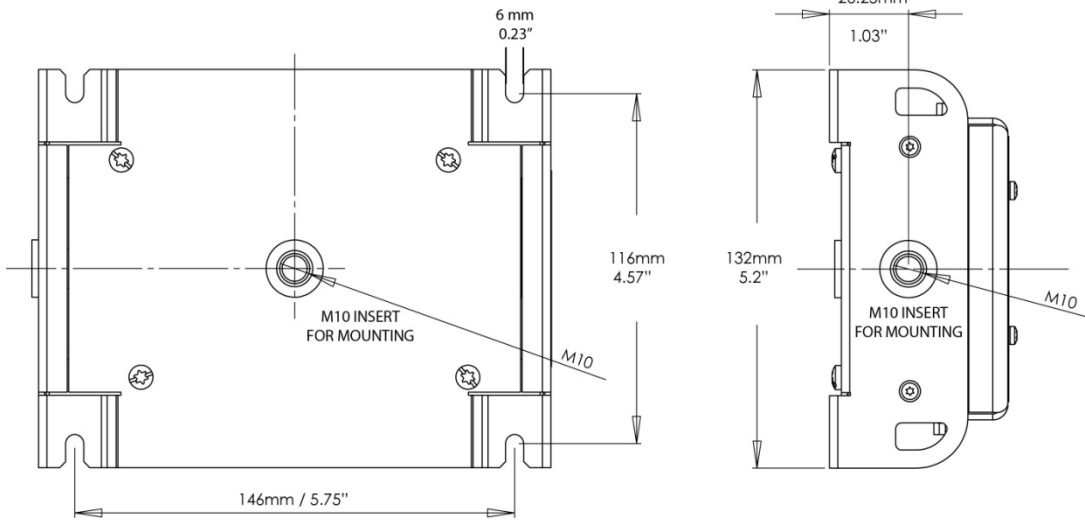
Do not overload the daisy chain. Up to a maximum of 32 devices can be used on a single dmx chain.

Protocol: USITT DMX512-A

Pipeline System 4 Way Controller



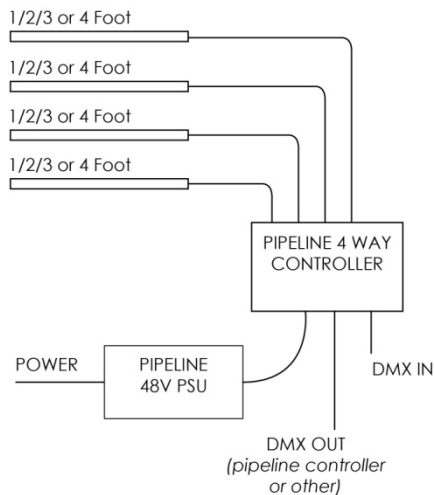
Pipeline System 4 Way Mounting



Introduction:

- A. The Pipeline 4 Way Controller is a Controlbox for up to 4 Pipeline Raw Pipes.
- B. The Pipeline 4 Way Controller has 2 to 3 basic functions
- C. The Pipeline 4 Way Controller has 6 different modes

Pipeline System Raw + 4 Way Controller setup



WARNING !!!

DO NOT CONNECT TUBES UNTIL CORRECT PIPELINE LENGTH FOR EACH OUTPUT HAS BEEN SET. FAILURE TO DO SO CAN CAUSE PERMANENT DAMAGE TO THE PIPELINE TUBES AND VOID THE WARRANTY

SETTING PIPELINE LENGTH:

1. Press **Menu** - Navigate to **Tools** - Press **Enter**
2. Navigate to **Length** - Press **Enter**
Displays shows "Output no. - Length" e.g. "A 4 FT"
3. Choose length: 1', 2', 3' or 4' for Output "A" - Press **Enter**
4. Repeat step 3 for all 4 outputs. When pressing **Enter** after output D; selected lengths are shown. e.g. 4214 (A:4'-B:2'-3:1'- 4:4') - To exit; press **Enter** and then **Menu**

B. Basic functions:

1. Intensity

2. Strobe

3. Color tweaking from 3200K to 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.

C. Modes (can be set in the menu under Mode/Resolution:)

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.)

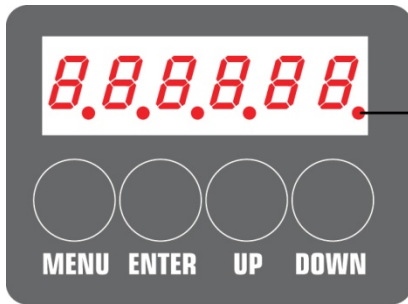
Ind 8 - Individual control of all four tubes

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.

Manual operation (No DMX connected)

The way the manual operation works is dependent on the *resolution* setting.

If set to

All 8 / All 16

When the Pipeline 4 Way Controller is switched on the display will show the light level e.g. "0"

Use the **UP** and **DOWN** buttons to set the desired light level.

The level will be autosaved after 10 seconds, indicated by display readout "**SAVED**" or can be saved instantly by pressing **ENTER** after setting the light level.

After saving a light level the **ENTER** button can be used to toggle between 0 and the saved level.

The display reads out "MANUAL" for 0.

(If "MANUAL" doesn't give you level "0", check that "noDMX" is not set to "man")

If power is lost, the unit will, when power is restored, automatically go to the saved light level after 5 seconds.

If a DMX signal is connected when in Manual mode, the unit will switch to DMX mode.

Removing the DMX signal will **not** cause the unit to switch back to Manual mode.

To reenter Manual mode; navigate to MANUAL in the menu OR remove DMX signal and switch unit off and then back on.

Individual 8 / Individual 16

When the Pipeline 4 Way Controller is switched on the display will show the light level for the first pipe e.g. "n1 0"

Use the **UP** and **DOWN** buttons to set the desired light level for Pipe 1

- press **Enter** to store the selected level and to go to the next pipe.

The display will read out e.g. "n2 0"

Use the **UP** and **DOWN** buttons to set the desired light level for Pipe 2

- press **Enter** to store the selected level and to go to the next pipe.

etc.

The level of the selected pipe will be autosaved after 10 seconds when doing nothing, indicated by display readout "**SAVED**"

The display reads out "MANUAL" for 0 (If "MANUAL" doesn't give you level "0", check that "noDMX" is not set to "man")

After saving the light level, it is possible to toggle between the saved light levels and 0, by, in turn, clicking the **MENU & ENTER**

The display reads out "MANUAL" for 0

(If "MANUAL" doesn't give you level "0", check that "noDMX" is not set to "man")

If power is lost, the unit will, when power is restored, automatically go to the saved light level after 5 seconds.

If a DMX signal is connected when in Manual mode, the unit will switch to DMX mode.

Removing the DMX signal will **not** cause the unit to switch back to Manual mode.

To reenter Manual mode; navigate to MANUAL in the menu OR remove the DMX signal and switch unit off and then back on.

CCT 8 / CCT 16 (Can be selected for any pipe combination, but only works with 3200/5600K pipes combination)

When the Pipeline 4 Way Controller is switched on the display will show the light level e.g. "0"

Use the **UP** and **DOWN** buttons to set the desired light level for the Pipeline 4 Way Controller.

- press **Enter** to store the selected level and to go to the color temperature.

The display will read out e.g. "3200 K" Set the desired color temperature and press enter to save it.

The level and color temperature will be autosaved after 10 seconds, indicated by display readout "**SAVED**" or can be saved instantly by pressing **ENTER** after setting the light level.

After saving the light level, it is possible to toggle between the saved light levels and 0, by, in turn, clicking the **MENU & ENTER**.

The display reads out "MANUAL" for 0.

(If "MANUAL" doesn't give you output level "0", check that "noDMX" is not set to "man")

If power is lost, the unit will, when power is restored, automatically go to the saved light level after 5 seconds.

If a DMX signal is connected when in Manual mode, the unit will switch to DMX mode.

Removing the DMX signal will **not** cause the unit to switch back to Manual mode.

To reenter Manual mode; navigate to MANUAL in the menu OR remove DMX signal and switch unit off and then back on.

DMX Operation:

Starting up:

At start up, display reads out the DMX address.

When a DMX cable is connected and the Pipeline 4 way controller receives a valid DMX signal from a DMX controller, the unit will indicate that DMX is being received by turning on the DMX present indicator in the display.

(See Introduction)

If a unit is started up without DMX present it will start up in manual mode, but will switch to DMX mode as soon as a DMX signal is detected.

Setting the DMX address:

After power up, the Pipeline 4 way controller will show the set DMX address e.g.: "A. 1"

If a different dmx address is desired:

- Press: **MENU**

The display writes: "Addr"

- Press: **ENTER**

Navigate to the desired DMX address using the **Up** and **Down** buttons

- Press: **ENTER** to select the desired address.

Channel Control:

(See DMX Channel Chart)

The Pipeline 4 way controller has 3 different control modes in both 8 or 16 bit. Individual, All or CCT

Individual: Controls every pipe connected to the Pipeline 4 way controller individually

All: Controls all pipes connected to the Pipeline 4 way controller as one - Useful for fixtures with just one color temperature.

CCT: Only useable with 3200/5600K pipes combination.

Loss of DMX signal:

The unit will stay in DMX mode even if DMX signal is lost. The behaviour of the the unit in case of the signal loss can be set in the menu under **Mode - noDMX** (see Software Menu Tree)

Tweaking: (only functional when using 3200 and 5600K pipes)

The Pipeline 4 way controller in

- **CCT 8bit mode (strobe-off) uses:**

2 channels: 1.Intensity 2.Color

- **CCT 16bit mode (strobe-off) uses:**

4 channels: 1.Intensity Coarse 2.Intensity Fine 3.Color Coarse 4. Color Fine

Example below shows a configuration using two pairs of 3200K and 5600K pipes of similar lenght.

E.g.: 1 x 3200K 1 Foot, 1 x 3200K 3 Foot, 1 x 5600K 1 Foot, 1 x 5600K 3 Foot

The values and their output:

<i>Intensity Channel Value</i>	0%-----100%
<i>intensity:</i>	0% 100%

<i>COLOR Channel value</i>	0%-----50%-----100%
<i>Colordistribution:</i>	3200K@100% 3200K@50% 3200K@0%
<i>Colordistribution:</i>	5600K@0% 5600K@50% 5600K@100%

Example:

Unit is set to: CCT 8bit mode

Channel 1 is set to 50 = The intensity level is set at 50%

Channel 2 is set to 25 = The Color is set to 3200 @ 75% and 5600K @ 25%

You can bring down the intensity without affecting the color.

(If tubes have been set to 4300K or unknown, they will not switch on when using CCT mode)

MODE FEATURES EXPLAINED

Resolution:

All: Controls all pipes as one
Ind: Controls all pipes individually
CCT: An overall light level and color balance can be set.

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.

MENU TREE

Button actions:

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

A. 1 (DMX Address Example)

Menu

Addr	1-512
Mode	
	Resolution
	CCT 8bit - Color Tweak from 3200K - 5600K - (Can be selected for any setup, but only works for 3200/5600 pipes combination)
	CCT 16bit - High Resolution Intensity and Color Tweak from 3200K - 5600K (Can be selected for any setup, but only works for 3200/5600 pipes combination)
	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
	Response
	slow - Fades between values
	Fast - Snaps between values
	Curve
	Square - Square dimmer curve
	Linear - Linear dimmer curve
	Strobe
	Off - No Strobe
	On - Adds 2 strobe channels; one Strobe Mode and one Strobe Length
	no dmx Sets fixtures action if loss of DMX signal occurs
	Hold - Maintains last received DMX value
	off - Sets output to zero
	Manual - Goes to stored Manual value.
	display Digital display action:
	On - Display always on
	Off 2minutes - Display turns off after two minutes
Tools	
Version	Shows software version - Readout only
HW Version	Shows hardware version - Readout only
P Temp	Controller PCB temperature - Readout only
Int Channel	(Up/Down navigates between channels) Shows internal channels used and the channels dmx values 3 first digits shows channel number - Readout Only 3 last digits shows DMX value - Readout Only
DMX In	(Up/Down navigates between channels) Shows all DMX addresses (1-512) and their DMX values 3 first digits shows DMX address - Readout Only 3 last digits shows DMX value - Readout Only
Pipes	(Up/Down navigates between pipes) - Readout Only Shows Pipe-number, Length and Color temperature. 1 3F-C = Pipe 1, 3 Foot, Cold (If you press Enter you will see a read-out e.g. 1 bfff this is for service techs only)

Continues on next page

Color	<p>In this menu you can set the color of the connected pipes. After pressing Enter at the menu item Color, pipe 1 will start flashing, navigate to the desired color using the Up/Down buttons, press Enter to select. 4300/Warm/Unknown/None/Cold (When pressing Enter to select, menu moves on to pipe 2 and pipe 2 starts flashing) Repeat the steps again until finished with pipe 4, after pressing Enter at pipe 4, the display will show selected colors eg. CWCW. Press Enter to finish. (4300K and unknown tubes will not switch on when using CCT mode.) Resetting the fixture will not reset the any changes made to these settings.</p>
Length	<p>Set the length of the connected pipes. When pressing Enter the Pipe connected to output A, will start flashing. Navigate to the length desired: 1, 2, 3 or 4 Feet using Up/Down - Press Enter to select. Repeat process for all outputs, when pressing Enter at output C, the display shows the selected lengths e.g.: 1321 - Press Enter to finish. Resetting the fixture will not reset the any changes made to these settings.</p>
Calibration	<p>Auto calibration of the Pipes. Press Enter to calibrate.</p>
CalVal	<p>Shows the calibration values for each pipe - Not affected by Reset - Readout Only</p>
Reset	<p>Resets fixture to default values. Reset does not affect Color settings, Calibration values or Manual Values (Confirm - Press enter to confirm reset)</p>
testdisplay	<p>Test display all segments are set to on except indicator dots. (Service tech. log)</p>
Log	<p>Log C° - Minimum and maximum logged Lamp temperature in °C - Readout Only MaxPCB - Maximum logged PCB temperature in °C bbsVer - Readout Only Id nr - Readout Only Pipe Version - Readout Only tUI Ver - Readout Only onTime - controller Power ON time in hours - Readout Only OnLED - Amount of hours the controller has been sending an intensity value of more than 1% to any output - Readout Only onCnt - Number of times controller has been switched on - Readout Only Serial - Internal serial number used as service number - Readout Only Demo - Repeats fade between 0% - 100% - 0% of all pipes simultaneously PSU V - PSU Voltage in Volts - Readout Only FliCH - Readout Only Fli In - Readout Only dmx HZ - DMX refresh rate - Readout Only dmx CH - Number of DMX channels transmitted by controller - Readout Only</p>
Manual:	<p>Manual intensity set and saved by pressing enter. 0-100% Manual intensity will autosave within 10 seconds. The display reads: Saved</p>

DMX Channels:

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

Mode	Channel	Parameter	Function	Value	Percent
CCT 8 bit - Strobe ON	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
CCT 16 bit	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
CCT 16 bit - Strobe ON	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
Individual 8 bit	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
Individual 8 bit - Strobe ON	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
Individual 16 bit	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	
Individual 16 bit - Strobe ON	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
All 8 bit	1	Intensity	Intensity	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent	
All 8 bit - Strobe ON	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
All 16 bit	1	Intensity	Intensity - Coarse	0 - 255	0 - 100
	2	Intensity	Intensity - Fine	0 - 255	0 - 100

Mode	Channel	Parameter	Function	Value	Percent	
All 16 bit - Strobe ON	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 "**Uknown**"
2. You have by accident set the pipe Color to "**none**"