PULSE

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ECO LED PAR56

(Black order code: LED-56 ECO BLACK)
(Polished order code: LED-56 ECO ALU)

User Manual

WARNING

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOUR INITIAL START-UP!

CAUTION!

Keep this equipment away from rain, moisture and liquids.

SAFETY INSTRUCTIONS

Every person involved with the installation, operation & maintenance of this equipment should:

- Be competent
- Follow the instructions of this manual

CAUTION! TAKE CARE USING THIS EQUIPMENT! HIGH VOLTAGE-RISK OF ELECTRIC SHOCK!!

Before your initial start-up, please make sure that there is no damage caused during transportation. Should there be any, consult your dealer and do not use the equipment.

To maintain the equipment in good working condition and to ensure safe operation, it is necessary for the user to follow the safety instructions and warning notes written in this manual.

Please note that damages caused by user modifications to this equipment are not subject to warranty.

IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the equipment.

- Never let the power-cable come into contact with other cables. Handle the power-cable and all mains voltage connections with particular caution!
- Never remove warning or informative labels from the equipment.
- Do not open the equipment and do not modify the equipment.
- Do not connect this equipment to a dimmer-pack.
- Do not switch the equipment on and off in short intervals, as this will reduce the system's life.
- Only use the equipment indoors.
- Do not expose to flammable sources, liquids or gases.
- Always disconnect the power from the mains when equipment is not in use or before cleaning! Only handle the power-cable by the plug. Never pull out the plug by pulling the power-cable.
- Make sure that the available voltage is between 220v/240v.
- Make sure that the power-cable is never crimped or damaged. Check the equipment and the power-cable periodically.
- If the equipment is dropped or damaged, disconnect the mains power supply immediately. Have a qualified engineer inspect the equipment before operating again.
- If the equipment has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation might damage the equipment. Leave the equipment switched off until it has reached room temperature.
- If your product fails to function correctly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Prolight dealer for service.
- Only use fuses of same type and rating.
- Repairs, servicing and power connection must only be carried out by a qualified technician. THIS UNIT CONTAINS NO USER SERVICEABLE PARTS.
- WARRANTY; One year from date of purchase.

OPERATING DETERMINATIONS

If this equipment is operated in any other way, than those described in this manual, the product may suffer damage and the warranty becomes void.

Incorrect operation may lead to danger e.g.: short-circuit, burns, electric shocks, lamp failure etc.

Do not endanger your own safety and the safety of others!
Incorrect installation or use can cause serious damage to people and property.

Introduction:

The main feature of this LED PAR is that it can be used as a 4ch DMX controller. In this mode 4 LED PAR's are connected with XLR cables on their DMX inputs and outputs.
The LED PAR in DMX master mode sends control signals to the connected slaves. There are different patterns available e.g. All connected LED PAR's do the same, each head shows different patterns, chaser programs, fade in – fade out patterns and fade over patterns. The steps of the patterns can be controlled by music or by the speed control. The music sensitivity is controllable. The colour patterns offer a 100% colour mode, a 100% / 50% colour mode, and a 100% / 75% / 50% / 25% colour mode. The colours are shown at random.
A 3ch DMX slave mode is supported, for easy connection in a DMX system. All 512 channels are supported. Stand alone modes, color change, fading patterns and fixed colour settings are also supported in the 3 channel mode.

3 Channel master mode

In this mode the LED PAR is used as a 4 head DMX master.
The 3 channel master mode is offered to use less DMX channels.
There are different patterns available e.g. all connected LED PAR's do the same, each shows different patterns, chaser programs, fade in – fade out patterns and fade over patterns. The steps of the patterns can be controlled by music beat or by a speed control. The music sensitivity is controllable. The colour patterns offer a 100% colour mode, a 100% / 50% colour mode, and a 100% / 75% / 50% / 25% colour mode. The colours are shown at random.

3 Channel slave mode

The 3 channel slave mode is for use with a standard DMX controller. The LED PAR can be controlled with all 512 channels. Each colour is controlled by one DMX channel.

Stand alone modes

Auto fade mode

There is an auto fade mode available with different fade in/fade out patterns and fade over patterns. The fade in/fade out and fade over time can be set by 9 time settings. The auto fade mode supports different colour change patterns:
The colour patterns offer a 100% colour mode, a 100% / 50% colour mode, and a 100% / 75% / 50% / 25% colour mode. The colours are shown at random.

Auto change mode

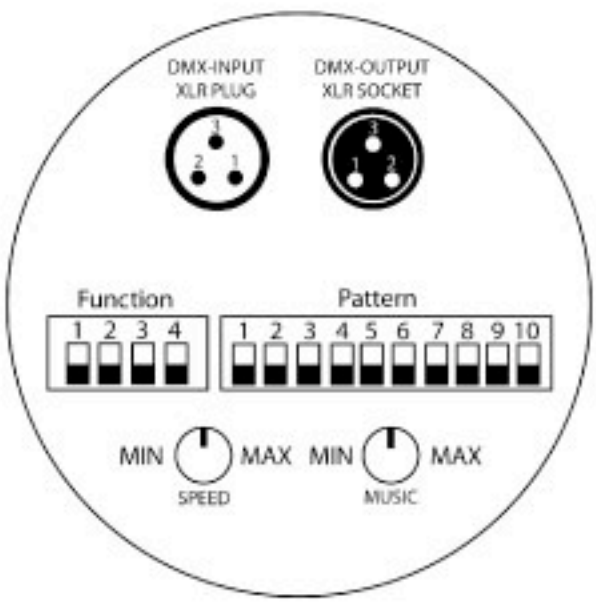
The auto change mode supports different colour change patterns.
The colour patterns offer a 100% colour mode, a 100% / 50% colour mode, and a 100% / 75% / 50% / 25% colour mode. The colours are shown at random.
The speed can be controlled by the internal microphone or speed control.

Manual mode

In the manual mode each colour brightness can be set in steps of 14%.

Overview

Back view



DMX-Input pin	
1	Ground
2	Signal -
3	Signal +

DMX-output pin	
1	Ground
2	Signal -
3	Signal +

Function:
This 4 pin dipswitch sets, the function mode of the LED PAR.

Pattern:
The function of this 10 pin dipswitch depends on the selected mode, e.g. in chaser mode the chaser patterns are selected here.
It is also used to set the DMX address.

Speed:
Manual speed setting.

Music:
Sensitivity control for the built-in microphone.

DMX operation

Building a serial chain

Connect the DMX output of the first unit in the DMX chain to the DMX input of the next fixture. Always connect the output to the input of the next unit until all fixtures are connected.
The last unit of the DMX chain has to be fitted with a terminator. You can obtain a Prolight DMX terminator plug from your local dealer.

LED PAR operating as a DMX master

In the DMX master mode, the PAR operates as a DMX controller to the slave units in the DMX chain.

If the LED PAR is used as a DMX master, it must be the first unit in the DMX chain.

LED PAR operating as a DMX slave

In the DMX slave mode the LED PAR operates as a normal DMX receiver. It is controlled by an external DMX controller, or an LED PAR set to master.

Function Selection:

The LED PAR modes may be set by the 4 way dipswitch on the rear of the LED PAR according to **TABLE A**:

SW4	SW3	SW2	SW1	mode
X	0	0	0	auto change
X	0	0	1	auto fade
X	0	1	0	manual mode
X	0	1	1	DMX slave 5 channel
X	1	0	0	DMX master 5 channel
X	1	0	1	DMX slave 3 channel
X	1	1	0	DMX master 3 channel
0	X	X	X	speed control by potentiometer, if selected mode supports it
1	X	X	X	speed control by music, if selected mode supports it

0 = dipswitch is set to off
1 = dipswitch is set to on
X = see other tables

Auto change mode

The LED PAR changes colours depending on speed selection.
In this mode the LED PAR is used stand alone, the DMX output/input is not used.

Mode setting

To enable the auto change mode, set the 4 way dipswitch on the rear of the LED PAR according to **TABLE B** below:

SW4	SW3	SW2	SW1	mode
X	0	0	0	auto change

0 = dipswitch is set to off
1 = dipswitch is set to on
X = see other tables

Speed setting

The 4 way dipswitch selects the speed for either manual control or sound control

According to **TABLE C** below:

SW4	SW3	SW2	SW1	mode
0	X	X	X	Manual speed control
1	X	X	X	Music activated speed control

0 = dipswitch is set to off
1 = dipswitch is set to on
X = see other tables

Colour pattern setting

The colour modes may be set by the 10 way dipswitch on the rear of the LED PAR according to **TABLE D** below:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	0	0	0	0	1	100% colour change
0	0	0	0	0	0	0	0	1	0	100%, 50% colour change
0	0	0	0	0	0	0	0	1	1	100%, 75%, 50%, 25% colour change

0 = dipswitch is set to off
1 = dipswitch is set to on

0000000001:
100% colour change pattern
Only colour patterns are shown with colours, set to 100% on.
The colour patterns are shown at random.

0000000010:
100% 50% colour change
Only colour patterns are shown with colours, set to 100% and 50 % on.
The colour patterns are shown at random.

0000000011:
100% 75% 50% 25% colour change
Only colour patterns are shown with colours, set to 100%, 75%, 50% and 25% on.The colour patterns are shown at random.

Auto fade mode

The LED PAR changes colour depending on speed selection.
In this mode the LED PAR is used stand alone, the DMX output/input is not used.

Mode setting

To enable the auto change mode, set the 4 way dipswitch on the rear of the LED PAR according to **TABLE E** below:

SW4	SW3	SW2	SW1	mode
X	0	0	1	auto fade

0 = dipswitch is set to off.
1 = dipswitch is set to on.
X = in this mode there is no speed control by potentiometer or music supported

Fade speed

The fade speed may be set by the 10 way dipswitch on the rear of the LED PAR according to **TABLE F** below:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	X	X	X	0	0	0	0	10:30min
0	0	0	X	X	X	0	0	0	1	2,5s
0	0	0	X	X	X	0	0	1	0	5s
0	0	0	X	X	X	0	0	1	1	10s
0	0	0	X	X	X	0	1	0	0	20s
0	0	0	X	X	X	0	1	0	1	40s
0	0	0	X	X	X	0	1	1	0	80s
0	0	0	X	X	X	0	1	1	1	160s
0	0	0	X	X	X	1	0	0	0	320s

0 = dipswitch is set to off, 1 = dipswitch is set to on, X = see other tables

No speed control by potentiometer or music is supported in this mode.

Color pattern setting

The fade patterns may be set by the 10 way dipswitch on the rear of the LED PAR according to **TABLE G** below:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	1	X	X	X	X	100% colour change, fade in and out
0	0	0	0	1	0	X	X	X	X	100%, 50% colour change, fade in and out
0	0	0	0	1	1	X	X	X	X	100%, 75%, 50%, 25% colour change, fade in
0	0	0	1	0	0	X	X	X	X	100% colour change, fade in
0	0	0	1	0	1	X	X	X	X	100%, 50% colour change, fade in
0	0	0	1	1	0	X	X	X	X	100%, 75%, 50%, 25% colour change, fade in

0 = dipswitch is set to off, 1 = dipswitch is set to on, X = see other tables

000001xxxx:
100% colour change, fade in and out
Only colour patterns are shown with colours set to 100% on.
The colour fades over to the next colour.

000010xxxx:
100%, 50% colour change, fade in and out
Only colour patterns are shown with colours set to 100% and 50% on.
The colour patterns are shown at random.

000011xxxx:
100%, 75%, 50%, 25% colour change, fade in and out
Only colour patterns are shown with colours set to 100%, 75%, 50% and 25% on.
The colour patterns are shown at random.

000100xxxx:
colour change, fade in
100% colour change, fade in.
Only colour patterns are shown with colours set to 100% on.
The colour patterns are shown at random.

000101xxxx:
100%, 50% colour change, fade in
Only colour patterns are shown with colours set to 100% and 50% on.
The colour patterns are shown at random.

000110xxxx:
100%, 75%, 50%, 25% colour change, fade in
Only colour patterns are shown with colours set to 100%, 75%, 50% and 25% on.
The colour patterns are shown at random.

Manual mode

The LED PAR shows different fixed colours.
In this mode the LED PAR is used stand-alone, the DMX output/input is not used.

Mode setting

To enable the manual mode, set the 4 way dipswitch on the rear of the LED PAR according to **TABLE H** below:

SW4	SW3	SW2	SW1	mode
X	0	1	0	Manual mode

0 = dipswitch is set to off
1 = dipswitch is set to on
X = in this mode there is no manual or sound active speed control

Red Colour setting

The red colour brightness may be set by the 10 way dipswitch on the rear of the LED PAR according to **TABLE I** below:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Red colour brightness
0	X	X	X	X	X	X	0	0	0	0%
0	X	X	X	X	X	X	0	0	1	14%
0	X	X	X	X	X	X	0	1	0	28%
0	X	X	X	X	X	X	0	1	1	42%
0	X	X	X	X	X	X	1	0	0	57%
0	X	X	X	X	X	X	1	0	1	71%
0	X	X	X	X	X	X	1	1	0	85%
0	X	X	X	X	X	X	1	1	1	100%

0 = dipswitch is set to off, 1 = dipswitch is set to on, X = see other tables

Green Colour setting

The green colour brightness may be set by the 10 way dipswitch on the rear of the LED PAR according to **TABLE J** below:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Green colour brightness
0	X	X	X	0	0	0	X	X	X	0%
0	X	X	X	0	0	1	X	X	X	14%
0	X	X	X	0	1	0	X	X	X	28%
0	X	X	X	0	1	1	X	X	X	42%
0	X	X	X	1	0	0	X	X	X	57%
0	X	X	X	1	0	1	X	X	X	71%
0	X	X	X	1	1	0	X	X	X	85%
0	X	X	X	1	1	1	X	X	X	100%

0 = dipswitch is set to off, 1 = dipswitch is set to on, X = see other tables

Blue Colour setting

The blue colour brightness may be set by the 10 way dipswitch on the rear of the LED PAR according to **TABLE K** below:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Blue colour brightness
0	0	0	0	X	X	X	X	X	X	0%
0	0	0	1	X	X	X	X	X	X	14%
0	0	1	0	X	X	X	X	X	X	28%
0	0	1	1	X	X	X	X	X	X	42%
0	1	0	0	X	X	X	X	X	X	57%
0	1	0	1	X	X	X	X	X	X	71%
0	1	1	0	X	X	X	X	X	X	85%
0	1	1	1	X	X	X	X	X	X	100%

0 = dipswitch is set to off, 1 = dipswitch is set to on, X = see other tables

DMX slave 5ch mode

The unit is controlled by 5 DMX channels according the table below.
Use dipswitch 1-9 to set the address.

Mode setting

To enable the DMX slave 5 channel mode, set the 4 way dipswitch on the rear of the LED PAR according to **TABLE L** below:

SW4	SW3	SW2	SW1	mode
X	0	1	1	DMX slave 5 channel

0 = dipswitch is set to off, 1 = dipswitch is set to on, X = see other tables

Speed setting

SW4 sets the speed source. Choose the speed source according to **TABLE M** below:

SW4	SW3	SW2	SW1	mode
0	X	X	X	speed control by potentiometer, if selected function supports it
1	X	X	X	speed control by music, if selected mode supports it

0 = dipswitch is set to off, 1 = dipswitch is set to on, X = see other tables

DMX usage for 5 channel control

TABLE N below shows the DMX value which needs to be sent to the LED PAR by an external DMX controller:

Channel 1 value	Function
0 - 63	RGB control, CH2 = red, CH3 = green, CH4 = blue
64 – 127	7 colour fade, CH5 = speed control
128 – 191	7 colour change, CH5 = speed control
192 – 255	3 colour change, CH5 = speed control

Channel 2 value	Function
0 – 255	Red colour 0% – 100%

Channel 3 value	Function
0 – 255	Green colour 0% – 100%

Channel 4 value	Function
0 – 255	Blue colour 0% – 100%

Channel 5 value	Function
0 - 10	no function – no speed
11 - 100	value 11 to 100, fast speed to low speed
101 - 150	no function – no speed
151 - 255	speed control by unit, by music or potentiometer

Set up of the first DMX receiving channel

The value of dipswitch 1 to 9 is binary coded. To set a required DMX receiving channel add the different dipswitch values together to obtain the starting address you require. **TABLE O** below:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	First DMX channel value
0	0	0	0	0	0	0	0	0	1	1
0	0	0	0	0	0	0	0	1	0	2
0	0	0	0	0	0	0	1	0	0	4
0	0	0	0	0	0	1	0	0	0	8
0	0	0	0	0	1	0	0	0	0	16
0	0	0	0	1	0	0	0	0	0	32
0	0	0	1	0	0	0	0	0	0	64
0	0	1	0	0	0	0	0	0	0	128
0	1	0	0	0	0	0	0	0	0	256

0 = dipswitch is set to off, 1 = dipswitch is set to on.

If all dipswitches 1 to 9 are set to zero, the first DMX channel is 1.
If only dipswitch 1 is set to on, the first DMX channel is still 1.

DMX master 5 channel mode

In this mode the LED PAR is a DMX controller in 5ch mode. The 5ch mode is for controlling the built-in programmes of the LED PAR via DMX. The connected slaves need to be set to a 5ch DMX slave mode (see **TABLE N**).

Mode setting

To enable the DMX master 5 channel mode, set the 4 way dipswitch on the rear of the LED PAR according to **TABLE P** below:

SW4	SW3	SW2	SW1	mode
X	1	0	0	DMX master 5ch

0 = dipswitch is set to off
1 = dipswitch is set to on
X = see other tables

Speed setting

SW4 sets the speed source. Choose the speed source according to **TABLE Q below:**

SW4	SW3	SW2	SW1	mode
0	X	X	X	speed control by potentiometer
1	X	X	X	speed control by music

0 = dipswitch is set to off
1 = dipswitch is set to on
X = see other tables

DMX usage for 5ch control

The LED PAR in master mode sends DMX data according to the table below. The connected slaves need to be set up to 5 channel slave mode (see **TABLE N**).

1. DMX CH = see **TABLE N**
2. DMX CH = RED
3. DMX CH = GREEN
4. DMX CH = BLUE
5. DMX CH = see **TABLE N**

6. DMX CH = see **TABLE N**
7. DMX CH = RED
8. DMX CH = GREEN
9. DMX CH = BLUE
10. DMX CH = see **TABLE N**

11. DMX CH = see **TABLE N**
12. DMX CH = RED
13. DMX CH = GREEN
14. DMX CH = BLUE
15. DMX CH = see **TABLE N**

16. DMX CH = see **TABLE N**
17. DMX CH = RED
18. DMX CH = GREEN
19. DMX CH = BLUE
20. DMX CH = see **TABLE N**

Colour pattern setting

The colour patterns may be set by the 10 way dipswitch on the rear of the LED PAR according to the **following** tables below:

Colour patterns

All LED PAR's are on and changing colours. **(TABLE R)**

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	0	0	0	0	0	4ch, Pattern 1, all on, all do the same
0	0	0	0	0	0	0	0	0	1	4ch, Pattern 2, all on, all do the same
0	0	0	0	0	0	0	0	1	0	4ch, Pattern 3, all on, all do the same
0	0	0	0	0	0	0	0	1	1	4ch, Pattern 1, all on, every unit has its own pattern
0	0	0	0	0	0	0	1	0	0	4ch, Pattern 2, all on, every unit has its own pattern
0	0	0	0	0	0	0	1	0	1	4ch, Pattern 3, all on, every unit has its own pattern

0 = dipswitch is set to off, 1 = dipswitch is set to on.

Fading in/out colour patterns (TABLE S)

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	0	0	1	1	0	4ch, Pattern 1, all on, all do the same with fade in and out
0	0	0	0	0	0	0	1	1	1	4ch, Pattern 2, all on, all do the same with fade in and out
0	0	0	0	0	0	1	0	0	0	4ch, Pattern 3, all on, all do the same with fade in and out
0	0	0	0	0	0	1	0	0	1	4ch, Pattern 1, all on, every unit has its own pattern with fade in and out
0	0	0	0	0	0	1	0	1	0	4ch, Pattern 2, all on, every unit has its own pattern with fade in and out
0	0	0	0	0	0	1	0	1	1	4ch, Pattern 3, all on, every unit has its own pattern with fade in and out

0 = dipswitch is set to off, 1 = dipswitch is set to on.

Fading over colour patterns (TABLE T)

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	0	1	1	0	0	4ch, Pattern 1, all on, all do the same with fade over
0	0	0	0	0	0	1	1	0	1	4ch, Pattern 2, all on, all do the same with fade over
0	0	0	0	0	0	1	1	1	0	4ch, Pattern 3, all on, all do the same with fade over
0	0	0	0	0	0	1	1	1	1	4ch, Pattern 1, all on, every unit has its own pattern with fade over
0	0	0	0	0	1	0	0	0	0	4ch, Pattern 2, all on, every unit has its own pattern with fade over
0	0	0	0	0	1	0	0	0	1	4ch, Pattern 3, all on, every unit has its own pattern with fade over

0 = dipswitch is set to off, 1 = dipswitch is set to on.

Chaser colour patterns

One LED PAR out of four is on (TABLE U)

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	1	0	0	1	0	chaser pattern 1, right to left, same colour each step
0	0	0	0	0	1	0	0	1	1	chaser pattern 1, right to left – left to right, same colour each step
0	0	0	0	0	1	0	1	0	0	chaser pattern 2, right to left, same colour each step
0	0	0	0	0	1	0	1	0	1	chaser pattern 2, right to left – left to right, same colour each step
0	0	0	0	0	1	0	1	1	0	chaser pattern 3, right to left, same colour each step
0	0	0	0	0	1	0	1	1	1	chaser pattern 3, right to left – left to right, same colour each step
0	0	0	0	0	1	1	0	0	0	chaser pattern 1, right to left, new colour each step
0	0	0	0	0	1	1	0	0	1	chaser pattern 1, right to left – left to right, new colour each step
0	0	0	0	0	1	1	0	1	0	chaser pattern 2, right to left, new colour each step
0	0	0	0	0	1	1	0	1	1	chaser pattern 2, right to left – left to right, new colour each step
0	0	0	0	0	1	1	1	0	0	chaser pattern 3, right to left, new colour each step
0	0	0	0	0	1	1	1	0	1	1 chaser pattern 3, right to left, new colour each step

0 = dipswitch is set to off.
1 = dipswitch is set to on.

Two LED PAR of the four are on (TABLE V)

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	1	1	1	1	0	chaser pattern 1, right to left, new colour each step
0	0	0	0	0	1	1	1	1	1	chaser pattern 1, right to left – left to right, new colour each step
0	0	0	0	1	0	0	0	0	0	chaser pattern 2, right to left, new colour each step
0	0	0	0	1	0	0	0	0	1	chaser pattern 2, right to left – left to right, new colour each step
0	0	0	0	1	0	0	0	1	0	chaser pattern 3, right to left, new colour each step
0	0	0	0	1	0	0	0	1	1	chaser pattern 3, right to left – left to right, new colour each step

0 = dipswitch is set to off.
1 = dipswitch is set to on.

Examples

Example A

This example shows how to set up four LED PAR's to be controlled in 5ch DMX master mode.
Connection:

MASTER	SLAVE 1	SLAVE 2	SLAVE 3
UNIT 1	UNIT 2	UNIT 3	UNIT 4

Master setup: Master unit, UNIT 1, needs to be set by **TABLE W** below:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	1	0	0	1	0	chaser pattern 1, right to left, same colour each step

SW4	SW3	SW2	SW1	Mode
0	1	0	0	DMX master 5ch, speed control by potentiometer

This head uses ch1, ch2, ch3, ch4, ch5.

SLAVE 1: **TABLE X** below:
SLAVE 1, UNIT 2, DMX starts channel 6:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	1	1	0		0	0	1	1

The LED PAR starts to receive with DMX channel 6.
The Head uses ch6, ch7, ch8, ch9, ch 10.

SLAVE 2: **TABLE Y** below:
SLAVE 2, UNIT 3, DMX starts channel 11:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	1	0	1	1		0	0	1	1

The LED PAR starts to receive with DMX channel 11.
The Head uses ch11, ch12, ch13, ch14, ch15.

SLAVE 3: **TABLE Z** below:
SLAVE 3, UNIT 4, DMX starts channel 16:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	1	0	0	0	0		0	0	1	1

The LED PAR starts to receive with DMX channel 16.
The head uses ch16, ch17, ch18, ch19, ch20.

Example B

This example shows how to set up eight LED PAR's to be controlled in 5ch DMX master mode. The patterns are still sent out for 4 heads.

Connection:
MASTER SLAVE 1 SLAVE 2 SLAVE 3 SLAVE 4 SLAVE 5 SLAVE 6 SLAVE 7
UNIT 1 UNIT 2 UNIT 3 UNIT 4 UNIT 5 UNIT 6 UNIT 7 UNIT 8

Master setup: **TABLE AA** below:
The master unit, UNIT 1, needs to be set to the table below:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	1	0	0	1	0	chaser pattern 1, right to left, same colour each step

TABLE BB below:

SW4	SW3	SW2	SW1	Mode
0	1	0	0	DMX master 5ch, speed control by potentiometer

The head uses ch1, ch2, ch3, ch4, ch5.

SLAVE1: **TABLE CC** below:
SLAVE 1, UNIT 2, DMX starts channel 6:

	10 Pin Dipswitch										4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	1	1	0		0	0	1	1

The LED PAR starts to receive with DMX channel 6.
The head uses ch6, ch7, ch8, ch9, ch10.

SLAVE2: **TABLE DD** below:
SLAVE 2, UNIT 3, DMX starts channel 11:

	10 Pin Dipswitch										4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	1	0	1	1		0	0	1	1

The LED PAR starts to receive with DMX channel 11.
The head uses ch11, ch12, ch13, ch14, ch15.

SLAVE 3: **TABLE EE** Below:
SLAVE 3, UNIT 4, DMX starts channel 16:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	1	0	0	0	0		0	0	1	1

The LED PAR starts to receive with DMX channel 16.
The head uses ch16, ch17, ch18, ch19, ch20.

SLAVE 4: **TABLE FF** below:
SLAVE 4, UNIT 5, DMX starts channel 1:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	0	0	1		0	0	1	1

The LED PAR starts to receive with DMX channel 1.
The head uses ch1, ch2, ch3, ch4, ch5.

SLAVE 5: **TABLE GG** below:
SLAVE 5, UNIT 6, DMX starts channel 6:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	1	1	0		0	0	1	1

The LED PAR starts to receive with DMX channel 6.
The head uses ch6, ch7, ch8, ch9, ch10.

SLAVE 6: **TABLE HH** below:
SLAVE 6, UNIT 7, DMX starts channel 11:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	1	0	1	1		0	0	1	1

The LED PAR starts to receive with DMX channel 11.
The head uses ch11, ch12, ch13, ch14, ch15.

SLAVE 7: **TABLE II** below:
SLAVE 7, UNIT 8, DMX starts channel 16:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	1	0	0	0	0		0	0	1	1

The LED PAR starts to receive with DMX channel 16.
The head uses ch16, ch17, ch18, ch19, ch20.

DMX slave 3 channel

The 3 channel slave mode is for use with a standard DMX controller. The LED PAR can be controlled with all 512 channels. Each colour is controlled by one DMX channel. Dipswitch 1 to 9 sets the DMX start address

Mode setting

To enable the DMX slave 3ch mode, set the 4 way dipswitch on the rear of the LED PAR according to **TABLE JJ** below:

SW4	SW3	SW2	SW1	Mode
X	1	0	1	DMX slave 3ch

0 = dipswitch is set to off
1 = dipswitch is set to on
X = in this mode there is no speed control by potentiometer or music supported

DMX usage

1. DMX CH = RED
2. DMX CH = GREEN
3. DMX CH = BLUE

Set up of the first DMX receiving channel

The value of dipswitch 1 to 9 is binary coded. To set a required DMX receiving channel add the different dipswitch values together to obtain the starting address you require from **TABLE KK** below.

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	First DMX channel value
0	0	0	0	0	0	0	0	0	1	1
0	0	0	0	0	0	0	0	1	0	2
0	0	0	0	0	0	0	1	0	0	4
0	0	0	0	0	0	1	0	0	0	8
0	0	0	0	0	1	0	0	0	0	16
0	0	0	0	1	0	0	0	0	0	32
0	0	0	1	0	0	0	0	0	0	64
0	0	1	0	0	0	0	0	0	0	128
0	1	0	0	0	0	0	0	0	0	256

0 = dipswitch is set to off.
1 = dipswitch is set to on.

Remarks:
If all dipswitches 1 to 9 are set to zero, the first DMX channel is 1.
If only dipswitch 1 is set to on, the first DMX channel is still 1.

DMX master 3ch

Mode setting

To enable the DMX master 3ch mode, set the 4 pin dipswitch on the rear of the LED PAR according to **TABLE LL** below:

SW4	SW3	SW2	SW1	Mode
X	1	1	0	DMX master 3ch

0 = dipswitch is set to off
1 = dipswitch is set to on
X = see other tables

Speed setting

SW4 sets the speed source. Choose the speed source according to **TABLE MM** below:

SW4	SW3	SW2	SW1	Mode
0	X	X	X	speed control by potentiometer, if selected function supports it
1	X	X	X	speed control by music, if selected mode supports it

0 = dipswitch is set to off
1 = dipswitch is set to on
X = see other tables

DMX usage for 3ch control

The LED PAR in master mode sends DMX data according to the table below.
The connected slaves need to be set up to 3 channel slave mode
(see **TABLE JJ**).

1. DMX CH = RED
2. DMX CH = GREEN
3. DMX CH = BLUE

4. DMX CH = RED
5. DMX CH = GREEN
6. DMX CH = BLUE

7. DMX CH = RED
8. DMX CH = GREEN
9. DMX CH = BLUE

10. DMX CH = RED
11. DMX CH = GREEN
12. DMX CH = BLUE

Colour pattern setting

Same settings as in the "DMX master 5ch" mode, Tables R, S, T, U and V

Examples

Example A

This example shows how to set up four LED PAR's to be controlled in 3ch DMX master mode.

Connection: MASTER UNIT 1 — SLAVE 1 UNIT 2 — SLAVE 2 UNIT 3 — SLAVE 3 UNIT 4

Master setup:
The master unit, UNIT 1, needs to be set by **TABLE NN** below:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	1	0	0	1	0	chaser pattern 1, right to left, same colour each step

SW4	SW3	SW2	SW1	Mode
0	1	1	0	DMX master 3ch

The LED PAR uses ch1, ch2, ch3.
SLAVE 1: **TABLE OO** below:
SLAVE 1, UNIT 2, DMX starts channel 4:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	1	0	0		0	1	0	1

The LED PAR starts to receive with DMX ch4.
The head uses ch4, ch5, ch6.

SLAVE 2: **TABLE PP** below:
SLAVE 2, UNIT 3, DMX starts channel 7:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	1	1	1		0	1	0	1

The LED PAR starts to receive with DMX CH7.
The head uses ch7, ch8, ch9.

SLAVE 3: **Table QQ** below:
SLAVE 3, UNIT 4, DMX starts channel 10:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	1	0	1	0		0	1	0	1

The LED PAR starts to receive with DMX CH10.
The head uses ch10, ch11, ch12.

Example B

This example shows how to set up eight LED PAR's to be controlled in 3ch DMX master mode. The patterns are still sent out for 4 heads.

Connection:

MASTER SLAVE 1 SLAVE 2 SLAVE 3 SLAVE 4 SLAVE 5 SLAVE 6 SLAVE 7
UNIT1 UNIT 2 UNIT 3 UNIT 4 UNIT 5 UNIT 6 UNIT 7 UNIT 8

Master setup: TABLE RR below:
The master unit, UNIT1, needs to be set by this table:

SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1	Colour pattern selection
0	0	0	0	0	1	0	0	1	0	chaser pattern 1, right to left, same colour each step

SW4	SW3	SW2	SW1	Mode
0	1	1	0	DMX master 3ch

The LED PAR uses ch1, ch2, ch3.

SLAVE 1: **TABLE SS** below:
SLAVE 1, UNIT 2, DMX starts channel 4:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	1	0	0		0	1	0	1

The LED PAR starts to receive with DMX ch4.
The head uses ch4, ch5, ch6.

SLAVE 2: **TABLE UU** below:
SLAVE 2, UNIT 3, DMX starts channel 7:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	1	1	1		0	1	0	1

The LED PAR starts to receive with DMX CH7.
The head uses ch7, ch8, ch9.

SLAVE 3: **TABLE VV** below:
SLAVE 3, UNIT 4, DMX starts channel 10:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	1	0	1	0		0	1	0	1

The LED PAR starts to receive with DMX ch10.
The head uses ch10, ch11, ch12.

SLAVE 4: **TABLE XX** below:
SLAVE 4, UNIT 5, DMX starts channel 1:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	0	0	1		0	1	0	1

The LED PAR starts to receive with DMX ch1.
The head uses ch1, ch2, ch3.

SLAVE 5: **TABLE YY** below:
SLAVE 5, UNIT 6, DMX starts channel 4:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	1	0	0		0	1	0	1

The LED PAR starts to receive with DMX ch4.
The head uses ch4, ch5, ch6.

SLAVE 6: **TABLE ZZ** below:
SLAVE 6, UNIT 7, DMX starts channel 7:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	0	1	1	1		0	1	0	1

The LED PAR starts to receive with DMX ch7.
The head uses ch7, ch8, ch9.

SLAVE 7: **TABLE AAA** below:
SLAVE 7, UNIT 8, DMX starts channel 10:

10 Pin Dipswitch											4 Pin Dipswitch			
SW10	SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1		SW4	SW3	SW2	SW1
0	0	0	0	0	0	1	0	1	0		0	1	0	1

The LED PAR starts to receive with DMX ch10.
The head uses ch10, ch11, ch12.

Technical Specifications

ECO PAR 56

Number of LED's	151 LED's, 5mm
Power supply	240v
Power consumption	20W
Dimensions	20.1x20.1x26.6cm
Weight	1,6Kg