

ChromaRange™ ~ ChromaZone™

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION
RISK OF FIRE OR TO REDUCE THE RISK OF FIRE OR THIS APPLIANCE TO RAIN OR MOISTURE

MAINS
FUSE
F 5A H
Sx20MM

ON-1
OFF-0

SERIAL NO. **ChromaZone12**

PULSAR 2004

MADE IN CHINA BY
PULSAR LIGHTING FIXTURES LTD.,
3 COLINDALE BUSINESS PARK,
NORMAN WAY, BURNLEY, LANCASHIRE, UK.

RECEIVING DMX/PMX MODE - CHANNEL ASSIGNMENTS

RECEIVING CHANNEL MODE	6 CHANNEL MODE	36 CHANNEL MODE
1 ALL RED 2 ALL GREEN 3 ALL BLUE 4 CHASE SELECT (SEE TABLE) 5 CHASE LEVEL 6 CHASE SPEED	1 ALL RED 2 ALL GREEN 3 ALL BLUE 4 CHASE SELECT (SEE TABLE) 5 CHASE LEVEL 6 CHASE SPEED	1 RED 2 GREEN 3 BLUE 4 CHASE SELECT (SEE TABLE) 5 CHASE LEVEL 6 CHASE SPEED 7 CHASE SELECT (SEE TABLE) 8 CHASE LEVEL 9 CHASE SPEED 10 GLOBAL GRAND MASTER (P7) 11 CHASE SELECT (SEE TABLE) 12 CHASE LEVEL 13 CHASE SPEED

46 CHANNEL MODE

1-5 AS 5 CHANNEL MODE
6-10 GRAND MASTER OR
11 CHASE SELECT (SEE TABLE)
12 CHASE LEVEL
13 CHASE SPEED
14 CHASE SELECT (SEE TABLE)
15 CHASE LEVEL
16 CHASE SPEED
17 CHASE SELECT (SEE TABLE)
18 CHASE LEVEL
19 CHASE SPEED
20 CHASE SELECT (SEE TABLE)
21 CHASE LEVEL
22 CHASE SPEED
23 CHASE SELECT (SEE TABLE)
24 CHASE LEVEL
25 CHASE SPEED
26 CHASE SELECT (SEE TABLE)
27 CHASE LEVEL
28 CHASE SPEED
29 CHASE SELECT (SEE TABLE)
30 CHASE LEVEL
31 CHASE SPEED
32 CHASE SELECT (SEE TABLE)
33 CHASE LEVEL
34 CHASE SPEED
35 CHASE SELECT (SEE TABLE)
36 CHASE LEVEL
37 CHASE SPEED
38 CHASE SELECT (SEE TABLE)
39 CHASE LEVEL
40 CHASE SPEED
41 CHASE SELECT (SEE TABLE)
42 CHASE LEVEL
43 CHASE SPEED
44 CHASE SELECT (SEE TABLE)
45 CHASE LEVEL
46 CHASE SPEED

DIL SWITCH SELECT FOR STAND ALONE (NO SIGNAL) MODE

CH.4 AND CH.7 INPUT FOR CHASE SELECT IN SIGNAL MODE

CH.4	CH.7	CH.4,7 INPUT	CHASE DESCRIPTION TABLE
15	100%	100%	AUTO CHASE
14	95%	95%	GREEN YELLOW RED BAR GRAPH REV
13	90%	90%	RAINBOW STRIKE RED BAR GRAPH FWD
12	85%	85%	WHITE/ANY COLOUR STRIKE
11	80%	80%	RAINBOW STRIKE RED BAR GRAPH FWD
10	75%	75%	BLUE-YELLOW WAVE REV
9	70%	70%	GREEN-MAGENTA WAVE FWD
8	65%	65%	RED-CYAN / ANY COL OPPOSITE COL WAVE FWD
7	60%	60%	BLACK-WHITE/ANY COLOUR WAVE REV
6	55%	55%	RANDOM COLS. CHASE 1 XFADE, CHASE 2 SMOOTH
5	50%	50%	RAINBOW CROSSFADE FWD (MORE PRIORITIES)
4	45%	45%	RAINBOW CROSSFADE FWD
3	40%	40%	RAINBOW CROSSFADE FWD
2	35%	35%	FOLLOW 3, 18 CONTRASTING COLOURS FWD
1	30%	30%	18 CONTRASTING COLOURS REV
0	25%	25%	WHITE/ANY COLOUR/AUTO COLOUR CASCADE FWD
	20%	20%	COLOUR MIXES PASTEL COLOURS
	15%	15%	6 CROSS-FADING COLOURS
	10%	10%	RED GREEN BLUE BAR GRAPH FWD
	5%	5%	RED GREEN BLUE BAR GRAPH REV
	0%	0%	NO CHASE

OPTION SELECT

LOW VOLTAGE SUPPLY (LVS)
DATA ERROR
RECEIVING DMX
RECEIVING PMX

DIGITAL START ADDRESS

DIL SWITCH SELECT FOR STAND ALONE (NO SIGNAL) MODE

SPEED STEP TIME (S)

0.5 SEC
1 SEC
1.5 SEC
2 SECS
3 SECS
5 SECS
10 SECS
20 SECS

XLRS PMX SIGNAL (RS232/423)
PINS: 1-SCREEN, 2-SIGNAL, 3-SIGNAL, 4-NOT USED, 5-VS 18-5VDC (MALE ONLY)

XLRS DMX SIGNAL
PINS: 1-SCREEN, 2-SIGNAL, 3-SIGNAL, 4-NOT USED, 5-VS 18-5VDC (MALE ONLY)

XLRA LV-POWER & SIGNAL TO NP-ZONE
PINS: 1-0V, 2-DATA+, 3-DATA-, 4-+24VDC

SPECIFICATION

24500	- ChromaZone12™ Controller + 50m ChromaFlex
24500NC	- ChromaZone 6™ Controller - No ChromaFlex
CPSU2	- ChromaPSU2™ PSU
CBANK2	- ChromaBank™ Mk 2 (Black)
8075G	- ChromaFlex Grey 5 Core Multiway Cable

Pulsar's Chroma Lighting Fixtures - ChromaLight™, ChromaDome™, ChromaFlush™, ChromaStrip™, ChromaPanel™, ChromaScape™, ChromaHearts™, etc., contain state of the art, high brightness, high efficiency Red, Green and Blue LEDs. These three primary colours can be mixed together to make an incredible pallet of 16.7 million colours.

Each ChromaFixture™ requires a +24VDC supply at up to 520mA and three 0 to +10V control signals to control the level of Red, Green and Blue. These control signals and the low voltage power are provided by the ChromaZone 12 and ChromaZone 6 controllers which can drive up to 12 or 6 ChromaFixtures respectively.

The ChromaZone has numerous chases and effects built in making it possible to achieve fantastic effects without programming. These internal effects can be selected via the DIL switches on the side of the unit in Stand Alone mode or from a controller using a digital PMX (Pulsar MultipleX) or DMX (Digital MultipleX) signal.

When receiving a signal the ChromaZone 12 can operate in 6, 9, 10, 36, 42 or 46 Channel Modes. The ChromaZone 6 operates in 6, 9, 10, 18, 24, or 28 Channel Modes. Please see the lid printing page for details of these Operating Modes, how to select them, Channel Listings, and further information.

The ChromaZone has mounting Flanges making it ideal for wall, ceiling or rig mounting, close to the fixtures it is driving.

The ChromaBank, which contains 12 ChromaHearts, has a built in ChromaZone 12 to power and drive them.

Please see the ChromaFixtures Leaflet for details of the luminaires themselves.

NB - Patents applied for. Trade Marks, Copyright, Registered and Unregistered Design Rights apply on all Chroma Products.

CHROMAZONE MAINS SUPPLY

Mains Supply - The ChromaZone works correctly on any mains voltage from 100-240 VAC, 50-60Hz, (self adjusting). Power consumption ranges from 10 Watts to 150 Watts depending on the number of fixtures connected and their output levels.

A mains cable is provided with an IEC female connector attached. The other end of the cable should be fitted with a suitably approved and rated mains plug. Note: in some countries it is a requirement that such a plug be fitted by a qualified electrician.

CABLE COLOURS

- Green/Yellow = Earth / Ground
- Brown = Live / Phase / Hot
- Blue = Neutral

WARNING - THIS APPLIANCE MUST BE EARTHED

For safety we recommend the use of a Residual Current Circuit Breaker. An RCCB MUST be used when powering e.g. ChromaScapes in wet environments.

Electronics On/Off Switch with built in Indicator Neon.

Electronics Mains Fuse: 5 Amp, HRC, 5x20mm.

CHROMAZONE SIGNALS AND OPERATION

Data Status Indicators:

Receive DMX LED - This green Light Emitting Diode shows that DMX data is reaching the ChromaZone.

Receive PMX LED - This yellow LED shows that PMX data is reaching the ChromaZone.

Data Error LED - This red LED shows that the **ChromaZone** did not recognise the last information received. Errors can often occur if the DMX line is not terminated. The end of the DMX line must always be terminated with a 100R or 120R resistor connected between signal+ and signal-, this resistor can be conveniently mounted in a 5 pin XLR plug which should be inserted in the last unit on the DMX line.

Unlike DMX, PMX may be branched and needs no termination.

LVS LED - This blue LED shows that a Low Voltage Supply (+23VDC, 120mA max.) is connected to Pin 5 of the male XLR connector, via switch 12, to power a desk or other equipment.

Start Address Switches - the **ChromaZone** receives a block of 6 to 46 channels from the signal, depending on the operating mode – see lid printing. The **Start Address Switch** selects the number of the first channel in the block. Dial up the start address required using the Hundreds, Tens and Units switches provided.

Channel functions:

The channels have the following functions in 46 Channel mode and subsets of these in the other operating modes – see lid printing:

- Channel 1 - All Red Master
- Channel 2 - All Green Master
- Channel 3 - All Blue Master
- Channel 4 - Internal Chase 1 Select - see front panel printing
- Channel 5 - Internal Chase 1 Speed
- Channel 6 - Internal Chase 1 Level Master
- Channel 7 - Internal Chase 2 Select - see front panel printing
- Channel 8 - Internal Chase 2 Speed
- Channel 9 - Internal Chase 2 Level Master
- Channel 10 - Master for the individual RGB Chs 11-46 (Option 7 Dn) Global Grand Master (Option 7 Up).
- Channel 11 - ChromaFixture No.1 Red
- Channel 12 - ChromaFixture No.1 Green
- Channel 13 - ChromaFixture No.1 Blue
- Channel 14 - ChromaFixture No.2 Red ... etc through to Channel 46

12 Way DIL Switch – in Stand Alone Mode when not receiving:

The DIL (Dual In Line) switch is used to select various fixed colours, chases and chase speeds. Please see the lid printing for full details.

Switches 1, 2, 3 select All Red, All Green and All Blue.

Switches 4, 5, 6 and 7 select from 14 pre-programmed internal chases. The Auto Chase runs a sequence of these chases.

Switches 8, 9, 10 select the chase speed.

12 Way DIL Switch - when receiving a digital signal:

Switch 11 (with 9 & 10 down) selects 9 or 28/46 channel mode

Switch 11 (with 9 down but 10 up) selects 6 or 24/42 ch. mode.

Switch 11 (with 9 up) selects 18/36 channel mode.

Switch 8 disables the input smoothing for fast response to video graphics signals for example.

Switch 7 makes the 11-46 Master on ch.10 a Global Grand Master.

Switch 12 connects the LVS to pin 5 of the MALE XLR.

PMX/DMX In/Thru 5 Pin XLR Connectors

Digital Control Signals: Two 5 pin XLR sockets (in/thru) are provided. The pin connections of the sockets are:

PMX (RS232/423) SIGNAL

- Pin 1 = Screen - Chassis Earth
- Pin 2 = Signal
- Pin 3 = Signal Earth
- Pin 4 = no connection
- Pin 5 = LVS (male only)

DMX SIGNAL

- Pin 1 = Screen- Chassis Earth
- Pin 2 = Signal -
- Pin 3 = Signal +
- Pin 4 = no connection
- Pin 5 = LVS (male only)

4 PIN XLR Low Voltage and DMX Output Socket

From March 2008 a 4 pin XLR output socket is fitted to the ChromaZone12. This can provide 24VDC Low Voltage Power and DMX to feed a ChromaZone12NP (No Power) and may be used when the ChromaZone12 is not fully loaded to its 200W limit.

This is the most economical control solution when many low power fixtures are to be driven with individual DMX control, for example in Low Resolution Video displays. The standard ChromaZone12 can power up to five ChromaMR16 fittings per output or up to 12 ChromaPoint fixtures, but all the fixtures on one output would do the same thing. Now, a number of ChromaZone12NPs and low power fittings may be "slaved" from one powered ChromaZone12 until its power limit of 200W is reached. E.g. up to 4 ChromaZoneNPs and 60 ChromaMR16 fixtures, or 11 ChromaZoneNPs and 144 ChromaPoints could be connected to one powered ChromaZone12 - all individually controllable.

The pin connections of the 4 Pin XLR socket are as follows:

- LV POWER: Pin 1 = 0V / Chassis Earth Pin 4 = +24VDC
- DMX SIGNAL: Pin 2 = Signal - Pin 3 = Signal +

XLR4 "Scroller Cables" are used for interconnection.

Outputs – 6/12 five pole, cage clamp connectors are provided on the side panel. Each connector provides the necessary power and signal to drive a ChromaFixture.

Two **Connectors** are supplied with many of the **ChromaFixtures**. 50m of grey **ChromaFlex** is supplied with each **ChromaZone 12** and extra **ChromaFlex** is available.

It is recommended that the maximum run of **ChromaFlex** between the **ChromaZone** and a **ChromaFixture** is 20m.

Wiring: Strip back the outer insulation and the insulation from the cores of the **ChromaFlex** a suitable distance. Insert a flat blade screwdriver into the cage clamp connector and press it down to open the terminal. Insert the wire. Release the screwdriver. The spring loaded cage clamp holds the wire tightly ensuring a long term, reliable connection.

Pin No.	Function	ChromaFlex Core Colour
1	0V	Black
2	Red 0 -10V	Red
3	Green 0 -10V	Green
4	Blue 0 -10V	Blue
5	+24Vdc	White

FUSES AND PRECAUTIONS

Failure of the **ChromaZone Electronics 5 Amp, HRC, 5x20mm Fuse**, usually indicates an internal fault requiring servicing by a qualified engineer.

Each 24VDC output is protected by an internal, resettable solid state fuse. Switch off the unit, fix the fault and switch on again to reset the fuse.

The 0-10V signal inputs and outputs are protected against shorts to 24V, 0V and static damage.

OTHER INFORMATION


PORTABLE APPLIANCE TESTING - The **Pulsar ChromaZone** may be safely Earth Bond and Insulation Tested.


STANDARDS - The **Pulsar ChromaZone** complies with the following International and National Standards:

Electrical Safety - IEC65, EN60065, BS415

EMC - EN50081-1, EN55022, EN50082-1

Index of Protection - IP20

 **Marking Directive 93/68/EEC** - The **Pulsar ChromaZone** meets both the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC.

 **Conforms to:** ANSI/UL Standard 6500
Certified to: CAN/CSA-E60065-00
3048422

GUARANTEE - 12 months from the date of original purchase. The guarantee is limited to parts and labour. The guarantee is void if the unit is misused, unauthorised persons perform repairs, or the incorrect type of fuse has been used. In the unlikely event of a fault occurring, do not use without repair. Return the unit to your supplier with a description of the fault, or direct to Pulsar for immediate attention.

DIMENSIONS AND WEIGHTS

Code	Unit	Width	Height	Depth	Weight
		mm	mm	mm	kg
24500	ChromaZone12 + 50m ChromaFlex	210.0	342.0	70.0	9.0
24550NC	ChromaZone 6 - no cable	210.0	342.0	70.0	2.0

ChromaZone™ Software Version 3.1

Pulsar ChromaZone / ChromaBank Software Version No. 3.1 (MAIN micro 3.1 29-11-04 + DMX micro 3.0 26-02-04) has many exciting new features. The additions since version 1.2 are: • Two built in Chases – allowing superimposition of effects and crossfading between chases. Chase 1 and 2 use the same table of 31 chases but there are differences to give you more choice - Chase 1 uses the Master Red, Green and Blue Channels 1, 2 & 3 to change the colour of some chases (see table) while Chase 2 stays white and uses them to give a background colour. • There are chase enhancements - shown in **Bold Italic** below. • The chases now have smoother waveforms. • There are 4 new operating modes: 9 Channel, 10 Channel (from 3.1), 36 Channel and 46 Channel Modes, in addition to the original 6 and 42 Channel Modes. • There's a Master Dimmer Channel (Ch.10) for the 36 individual RGB channels and, with option 7 up, this becomes a **Global Grand Master** for the All R/G/B and Chases Levels too (from 3.1). • A new Dimmer Law doubles the bottom end resolution for smoother dimming and increases the top end action. • Input Smoothing Disable Switch for fast display of video graphics, **and video frame rate capability** (from 3.0). • Plus a new, more useful choice of Stand Alone Chase Speeds. • Please see the lid printing pages for details of the Operating Modes and how to select them, Channel Listings, and further information. • Version 3.1 is suitable for both the ChromaZone 12 and the ChromaZone 6.

DIL Switch	Chase	Ch.4&7	Bit	Chase	Notes
4 5 6 7	No.	Input	No.	Description	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	15	100%	255	Auto Chase	
		95%	242	Green Yellow Red Bar Graph Rev	Use Ch.1
		92%	235	Green Yellow Red Bar Graph Fwd	Use Ch.1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	14	90%	230	Rainbow Strobe	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	13	85%	217	White / Any Colour Strobe	Chs.1, 2, & 3 set colour
		82%	209	White / Any Colour Crossover	New: Chs. 1, 2 & 3 set colour
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	12	80%	204	Blue-Yellow Wave Rev	
		77%	196	Blue-Yellow Wave Fwd	
		73%	186	Green-Magenta Wave Rev	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	11	70%	179	Green-Magenta Wave Fwd	
		67%	171	Red-Cyan / AnyCol/Op.Col Wave Fwd	New: Chs. 1, 2 & 3 set colour
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	10	65%	166	Red-Cyan / AnyCol/Op.Col Wave Rev	All 3 at 0% = Red-Cyan
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	9	60%	153	Black-White/ AnyColour Wave Fwd	New: Chs. 1, 2 & 3 set colour
		57%	145	Black-White/ AnyColour Wave Rev	All 3 at 0% = White.
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	8	55%	140	Random Cols. Chs1 Xfade, Chs2 Snap	New in 3.1: Chase1 Xfades
		52%	133	Rainbow 2 Crossfade Fwd	Wider primary colours to compensate for extra diffusion
		48%	122	Rainbow 2 Crossfade Rev	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	7	45%	115	Rainbow Crossfade Fwd	Equal width primary & secondary colours
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	6	41%	105	Rainbow Crossfade Rev	
		38%	97	"Follow 3" 18 Contrasting Cols Rev	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	5	35%	89	"Follow 3" 18 Contrasting Cols Fwd	
		32%	82	18 Crossfading Colours Rev	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	4	30%	77	18 Crossfading Colours Fwd	
		27%	69	White/AnyColour/ AutoColour Cascade Rev	Chs. 1, 2 & 3 set colour. All 3 at 0% = White. New: All 3 at 100% = Auto Colour Change
		23%	59	White/AnyColour/ AutoColour Cascade Fwd	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3	20%	51	6 Crossfading Pastel Colours	
		17%	43	Colour Wipes	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	2	15%	38	6 Crossfading Colours	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1	10%	26	6 Separate Colours	
		7%	18	Red Green Blue Bar Graphs Rev	Use Chs. 1, 2 & 3
		5%	13	Red Green Blue Bar Graphs Fwd	Use Chs. 1, 2 & 3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	0%	0	No Chase	



CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN



ON-1 OFF-0

FUSE F 5A H 5X20MM

MAINS

100-240V~ 50-60HZ 150W MAX

- OV BLACK
- RED
- GREEN
- BLUE
- WHITE +24V

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE

ChromaZone6 PULSAR

SERIAL NO.

PULSAR 2004

MADE IN EUROPE BY: PULSAR LIGHT OF CAMBRIDGE LTD., 3 COLDHAMS BUSINESS PARK, NORMAN WAY, CAMBRIDGE, CB1 3LH, UK. WWW.PULSARLIGHT.COM

RECEIVING DMX/PMX MODE - CHANNEL ASSIGNMENTS

<input type="checkbox"/> <input type="checkbox"/> 1011	9(10) CHANNEL MODE	<input type="checkbox"/> <input type="checkbox"/> 1011	6 CHANNEL MODE	<input type="checkbox"/> <input type="checkbox"/> 91011	18 CHANNEL MODE
1 ALL RED 2 ALL GREEN 3 ALL BLUE 4 CHASE1 SELECT (SEE TABLE) 5 CHASE1 SPEED 6 CHASE1 LEVEL 7 CHASE2 SELECT (SEE TABLE) 8 CHASE2 SPEED 9 CHASE2 LEVEL (10 GLOBAL GRAND MASTER <input type="checkbox"/> 7)		1 ALL RED 2 ALL GREEN 3 ALL BLUE 4 CHASE SELECT (SEE TABLE) 5 CHASE SPEED 6 CHASE LEVEL		1 OUTPUT 1 RED 2 OUTPUT 1 GREEN 3 OUTPUT 1 BLUE 4 OUTPUT 2 RED 5 OUTPUT 2 GREEN 18 OUTPUT 6 BLUE	
<input type="checkbox"/> <input type="checkbox"/> 91011	28 CHANNEL MODE	<input type="checkbox"/> <input type="checkbox"/> 91011	24 CHANNEL MODE		
1-9 AS 9 CHANNEL ABOVE 10 11-46 GRAND MASTER <input type="checkbox"/> 7 OR <input type="checkbox"/> 7 11 OUTPUT 1 RED 12 OUTPUT 1 GREEN 13 OUTPUT 1 BLUE 14 OUTPUT 2 RED 15 OUTPUT 2 GREEN 28 OUTPUT 6 BLUE		1-6 AS 6 CHANNEL ABOVE 7 OUTPUT 1 RED 8 OUTPUT 1 GREEN 9 OUTPUT 1 BLUE 10 OUTPUT 2 RED 11 OUTPUT 2 GREEN 24 OUTPUT 6 BLUE			
<input type="checkbox"/> 12	LOW VOLTAGE SUPPLY				
<input type="checkbox"/>	DISABLE INPUT SMOOTHING 8 (FOR FAST VIDEO/GRAPHIC USE)				



EMC DIRECTIVE 89/336/EEC
LOW VOLTAGE DIRECTIVE 73/23/EEC



CONFORMS TO:
ANSI/UL STD. 6500
CERT. TO:
CAN/CSA-E60065-00

3048422

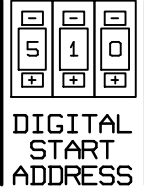
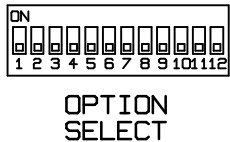
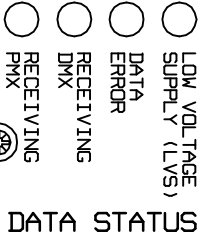
DIL SWITCH SELECT FOR STAND ALONE (NO SIGNAL) MODE CH. 4 AND CH. 7 INPUT FOR CHASE SELECT IN SIGNAL MODE

<input type="checkbox"/> <input type="checkbox"/> 123	FIXED COLOURS	CHASE NO.	<input type="checkbox"/> <input type="checkbox"/> 4567	CH. 4&7 INPUT	CHASE DESCRIPTION TABLE	SPEED STEP TIME	<input type="checkbox"/> <input type="checkbox"/> 8910
<input type="checkbox"/> <input type="checkbox"/> 123	WHITE	15	<input type="checkbox"/> <input type="checkbox"/> 4567	100%	AUTO CHASE	0.5 SEC	<input type="checkbox"/> <input type="checkbox"/> 8910
<input type="checkbox"/> <input type="checkbox"/> 123	CYAN	14	<input type="checkbox"/> <input type="checkbox"/> 4567	95%	GREEN YELLOW RED BAR GRAPH REV	1 SEC	<input type="checkbox"/> <input type="checkbox"/> 8910
<input type="checkbox"/> <input type="checkbox"/> 123	MAGENTA	13	<input type="checkbox"/> <input type="checkbox"/> 4567	92%	GREEN YELLOW RED BAR GRAPH FWD	1.5 SEC	<input type="checkbox"/> <input type="checkbox"/> 8910
<input type="checkbox"/> <input type="checkbox"/> 123	YELLOW	12	<input type="checkbox"/> <input type="checkbox"/> 4567	90%	RAINBOW STROBE	2 SECS	<input type="checkbox"/> <input type="checkbox"/> 8910
<input type="checkbox"/> <input type="checkbox"/> 123	BLUE	11	<input type="checkbox"/> <input type="checkbox"/> 4567	85%	WHITE/ANY COLOUR STROBE	3 SECS	<input type="checkbox"/> <input type="checkbox"/> 8910
<input type="checkbox"/> <input type="checkbox"/> 123	GREEN	10	<input type="checkbox"/> <input type="checkbox"/> 4567	82%	WHITE/ANY COLOUR CROSSOVER	5 SECS	<input type="checkbox"/> <input type="checkbox"/> 8910
<input type="checkbox"/> <input type="checkbox"/> 123	RED	9	<input type="checkbox"/> <input type="checkbox"/> 4567	80%	BLUE-YELLOW WAVE REV	10 SECS	<input type="checkbox"/> <input type="checkbox"/> 8910
<input type="checkbox"/> <input type="checkbox"/> 123	BLACK	8	<input type="checkbox"/> <input type="checkbox"/> 4567	77%	BLUE-YELLOW WAVE FWD	20 SECS	<input type="checkbox"/> <input type="checkbox"/> 8910
		7	<input type="checkbox"/> <input type="checkbox"/> 4567	73%	GREEN-MAGENTA WAVE REV		
		6	<input type="checkbox"/> <input type="checkbox"/> 4567	70%	GREEN-MAGENTA WAVE FWD		
		5	<input type="checkbox"/> <input type="checkbox"/> 4567	67%	RED-CYAN / ANY COL-OPPOSITE COL WAVE FWD		
		4	<input type="checkbox"/> <input type="checkbox"/> 4567	65%	RED-CYAN / ANY COL-OPPOSITE COL WAVE REV		
		3	<input type="checkbox"/> <input type="checkbox"/> 4567	60%	BLACK-WHITE/ANY COLOUR WAVE FWD		
		2	<input type="checkbox"/> <input type="checkbox"/> 4567	57%	BLACK-WHITE/ANY COLOUR WAVE REV		
		1	<input type="checkbox"/> <input type="checkbox"/> 4567	55%	RANDOM COLS. CHASE 1 XFADE, CHASE 2 SNAP		
		0	<input type="checkbox"/> <input type="checkbox"/> 4567	52%	RAINBOW 2 CROSSFADE FWD (MORE PRIMARIES)		
				48%	RAINBOW 2 CROSSFADE REV (MORE PRIMARIES)		
				45%	RAINBOW CROSSFADE FWD		
				41%	RAINBOW CROSSFADE REV		
				38%	FOLLOW 3, 18 CONTRASTING COLOURS REV		
				35%	FOLLOW 3, 18 CONTRASTING COLOURS FWD		
				32%	18 CROSSFADING COLOURS REV		
				30%	18 CROSSFADING COLOURS FWD		
				27%	WHITE/ANY COLOUR/AUTO COLOUR CASCADE REV		
				23%	WHITE/ANY COLOUR/AUTO COLOUR CASCADE FWD		
				20%	6 CROSSFADING PASTEL COLOURS		
				17%	COLOUR WIPES		
				15%	6 CROSSFADING COLOURS		
				10%	6 SEPARATE COLOURS		
				7%	RED GREEN BLUE BAR GRAPHS REV		
				5%	RED GREEN BLUE BAR GRAPHS FWD		
				0%	NO CHASE		

- OV BLACK
- RED
- GREEN
- BLUE
- WHITE +24V

- OV BLACK
- RED
- GREEN
- BLUE
- WHITE +24V

- OV BLACK
- RED
- GREEN
- BLUE
- WHITE +24V



PMX (RS232/423)
PINS: 1=SCREEN ↗, 2=SIGNAL ↘, 3=SIGNAL ↗, 4=NOT USED, 5=LVS 18-25VDC (MALE ONLY)

DMX
PINS: 1=SCREEN ↗, 2=DATA -, 3=DATA +, 4=NOT USED, 5=LVS 18-25VDC (MALE ONLY)

DIGITAL INPUT

ChromaZone Printing



CAUTION

RISK OF
ELECTRIC SHOCK
DO NOT OPEN



TO REDUCE THE RISK OF FIRE OR
ELECTRIC SHOCK DO NOT EXPOSE
THIS APPLIANCE TO RAIN OR MOISTURE

ON-1
OFF-0

MAINS
FUSE
F 5A H
5x20MM

100-240V~
50-60HZ
150W MAX

OV
BLACK
RED
GREEN
BLUE
WHITE
+24V

2 1

OV
BLACK
RED
GREEN
BLUE
WHITE
+24V

4 3

OV
BLACK
RED
GREEN
BLUE
WHITE
+24V

6 5

OV
BLACK
RED
GREEN
BLUE
WHITE
+24V

8 7

OV
BLACK
RED
GREEN
BLUE
WHITE
+24V

10 9

OV
BLACK
RED
GREEN
BLUE
WHITE
+24V

12 11

LOW VOLTAGE
SUPPLY (LVS)
DATA
ERROR
RECEIVING
DMX
RECEIVING
PMX

DATA STATUS

ChromaZone 12
PULSAR

SERIAL NO.



PULSAR 2004

MADE IN EUROPE BY:
PULSAR LIGHT OF CAMBRIDGE LTD.,
3 COLDHAMS BUSINESS PARK,
NORMAN WAY, CAMBRIDGE, CB1 3LH, UK.
WWW.PULSARLIGHT.COM

RECEIVING DMX/PMX MODE - CHANNEL ASSIGNMENTS

9(10) CHANNEL MODE	6 CHANNEL MODE	36 CHANNEL MODE
<input type="checkbox"/> <input type="checkbox"/> 1011 1 ALL RED 2 ALL GREEN 3 ALL BLUE 4 CHASE1 SELECT (SEE TABLE) 5 CHASE1 SPEED 6 CHASE1 LEVEL 7 CHASE2 SELECT (SEE TABLE) 8 CHASE2 SPEED 9 CHASE2 LEVEL (10 GLOBAL GRAND MASTER <input type="checkbox"/>)	<input type="checkbox"/> <input type="checkbox"/> 1011 1 ALL RED 2 ALL GREEN 3 ALL BLUE 4 CHASE SELECT (SEE TABLE) 5 CHASE SPEED 6 CHASE LEVEL	<input type="checkbox"/> <input type="checkbox"/> 91011 1 OUTPUT 1 RED 2 OUTPUT 1 GREEN 3 OUTPUT 1 BLUE 4 OUTPUT 2 RED 5 OUTPUT 2 GREEN ↓ 36 OUTPUT 12 BLUE
<input type="checkbox"/> <input type="checkbox"/> 91011 46 CHANNEL MODE 1-9 AS 9 CHANNEL ABOVE 10 11-46 GRAND MASTER <input type="checkbox"/> 7 OR <input type="checkbox"/> 7 10 GLOBAL GRAND MASTER <input type="checkbox"/> 7 11 OUTPUT 1 RED 12 OUTPUT 1 GREEN 13 OUTPUT 1 BLUE 14 OUTPUT 2 RED 15 OUTPUT 2 GREEN ↓ 46 OUTPUT 12 BLUE	<input type="checkbox"/> <input type="checkbox"/> 91011 42 CHANNEL MODE 1-6 AS 6 CHANNEL ABOVE 7 OUTPUT 1 RED 8 OUTPUT 1 GREEN 9 OUTPUT 1 BLUE 10 OUTPUT 2 RED 11 OUTPUT 2 GREEN ↓ 42 OUTPUT 12 BLUE	EMC DIRECTIVE 89/336/EEC LOW VOLTAGE DIRECTIVE 73/23/EEC CONFORMS TO: ANSI/UL STD. 6500 CERT. TO: US CAN/CSA-E60065-00 3048422
<input type="checkbox"/> LOW VOLTAGE SUPPLY <input type="checkbox"/> DISABLE INPUT SMOOTHING <input type="checkbox"/> 8 (FOR FAST VIDEO/GRAPHIC USE)		

DIL SWITCH SELECT FOR STAND ALONE (NO SIGNAL) MODE

CH. 4 AND CH. 7 INPUT FOR CHASE SELECT IN SIGNAL MODE

FIXED COLOURS	CHASE NO.	CH. 4&7 INPUT	CHASE DESCRIPTION TABLE	SPEED STEP TIME
WHITE	15	100%	AUTO CHASE	0.5 SEC
CYAN	14	95%	GREEN YELLOW RED BAR GRAPH REV	1 SEC
		92%	GREEN YELLOW RED BAR GRAPH FWD	
MAGENTA	13	90%	RAINBOW STROBE	1.5 SEC
		85%	WHITE/ANY COLOUR STROBE	
YELLOW	12	82%	WHITE/ANY COLOUR CROSSOVER	2 SECS
		80%	BLUE-YELLOW WAVE REV	
BLUE	11	77%	BLUE-YELLOW WAVE FWD	3 SECS
		73%	GREEN-MAGENTA WAVE REV	
GREEN	10	70%	GREEN-MAGENTA WAVE FWD	5 SECS
		67%	RED-CYAN / ANY COL-OPPOSITE COL WAVE FWD	
RED	9	65%	RED-CYAN / ANY COL-OPPOSITE COL WAVE REV	10 SECS
		60%	BLACK-WHITE/ANY COLOUR WAVE FWD	
BLACK	8	57%	BLACK-WHITE/ANY COLOUR WAVE REV	20 SECS
		55%	RANDOM COLS. CHASE 1 XFADE, CHASE 2 SNAP	
	7	52%	RAINBOW 2 CROSSFADE FWD (MORE PRIMARIES)	
		48%	RAINBOW 2 CROSSFADE REV (MORE PRIMARIES)	
	6	45%	RAINBOW CROSSFADE FWD	
		41%	RAINBOW CROSSFADE REV	
	5	38%	FOLLOW 3, 18 CONTRASTING COLOURS REV	
		35%	FOLLOW 3, 18 CONTRASTING COLOURS FWD	
	4	32%	18 CROSSFADING COLOURS REV	
		30%	18 CROSSFADING COLOURS FWD	
	3	27%	WHITE/ANY COLOUR/AUTO COLOUR CASCADE REV	
		23%	WHITE/ANY COLOUR/AUTO COLOUR CASCADE FWD	
	2	20%	6 CROSSFADING PASTEL COLOURS	
		17%	COLOUR WIPES	
	1	15%	6 CROSSFADING COLOURS	
		10%	6 SEPARATE COLOURS	
	0	7%	RED GREEN BLUE BAR GRAPHS REV	
		5%	RED GREEN BLUE BAR GRAPHS FWD	
		0%	NO CHASE	

XLR5 PMX SIGNAL (RS232/423)

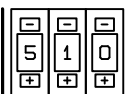
PINS: 1=SCREEN+ 2=SIGNAL 3=SIGNAL-
4=NOT USED 5=LVS 18-25VDC (MALE ONLY)

XLR5 DMX SIGNAL

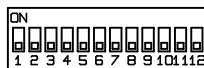
PINS: 1=SCREEN+ 2=DATA- 3=DATA+
4=NOT USED 5=LVS 18-25VDC (MALE ONLY)

XLR4 LV-POWER & SIGNAL TO N.P.ZONE

PINS: 1=0V 2=DATA- 3=DATA+ 4=+24VDC



DIGITAL
START
ADDRESS



OPTION
SELECT

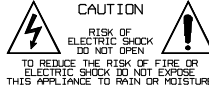


ChromaBank 2[®]

PULSAR

SERIAL NO.

COPYRIGHT PULSAR 2004



MADE IN EUROPE BY:
PULSAR LIGHT OF CAMBRIDGE LTD.,
3 COLDHAMS BUSINESS PARK, NORMAN WAY,
CAMBRIDGE, CB1 3LH, UK.

TEL: +44 (0) 1223 403500
FAX: +44 (0) 1223 403501
WWW.PULSARLIGHT.COM

RECEIVING DMX/PMX MODE - CHANNEL ASSIGNMENTS

9(10) CHANNEL MODE	6 CHANNEL MODE
1 ALL RED 2 ALL GREEN 3 ALL BLUE 4 CHASE1 SELECT (SEE TABLE) 5 CHASE1 SPEED 6 CHASE1 LEVEL 7 CHASE2 SELECT (SEE TABLE) 8 CHASE2 SPEED 9 CHASE2 LEVEL 10 GLOBAL GRAND MASTER	1 ALL RED 2 ALL GREEN 3 ALL BLUE 4 CHASE SELECT (SEE TABLE) 5 CHASE SPEED 6 CHASE LEVEL
46 CHANNEL MODE	42 CHANNEL MODE
1-9 AS 9 CHANNEL ABOVE 10 11-46 GRAND MASTER 11 OUTPUT 1 RED 12 OUTPUT 1 GREEN 13 OUTPUT 1 BLUE 14 OUTPUT 2 RED 15 OUTPUT 2 GREEN 46 OUTPUT 12 BLUE	1-6 AS 6 CHANNEL ABOVE 7 OUTPUT 1 RED 8 OUTPUT 1 GREEN 9 OUTPUT 1 BLUE 10 OUTPUT 2 RED 11 OUTPUT 2 GREEN 42 OUTPUT 12 BLUE
36 CHANNEL MODE	
1 OUTPUT 1 RED 2 OUTPUT 1 GREEN 3 OUTPUT 1 BLUE 4 OUTPUT 2 RED 5 OUTPUT 2 GREEN 36 OUTPUT 12 BLUE	
LOW VOLTAGE SUPPLY	
DISABLE INPUT SMOOTHING	
FOR FAST VIDEO/GRAPHIC USE	

DIL SWITCH SELECT FOR STAND ALONE (NO SIGNAL) MODE

CH. 4 AND CH. 7 INPUT FOR CHASE SELECT IN SIGNAL MODE

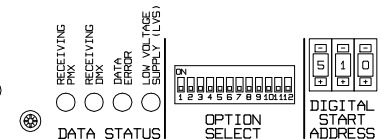
FIXED COLOURS	SPEED STEP TIME
WHITE	0.5 SEC
CYAN	1 SEC
MAGENTA	1.5 SEC
YELLOW	2 SECS
BLUE	3 SECS
GREEN	5 SECS
RED	10 SECS
BLACK	20 SECS

CHASE NO.	CH. 4 & 7 INPUT	CHASE DESCRIPTION TABLE
15	100%	AUTO CHASE
	95%	GREEN YELLOW RED BAR GRAPH REV
	92%	GREEN YELLOW RED BAR GRAPH FWD
14	90%	RAINBOW STROBE
13	85%	WHITE/ANY COLOUR STROBE
	82%	WHITE/ANY COLOUR CROSSOVER
12	80%	BLUE-YELLOW WAVE REV
	77%	BLUE-YELLOW WAVE FWD
	73%	GREEN-MAGENTA WAVE REV
	70%	GREEN-MAGENTA WAVE FWD
11	67%	RED-CYAN / ANY COL-OPPOSITE COL WAVE FWD
10	65%	RED-CYAN / ANY COL-OPPOSITE COL WAVE REV
9	60%	BLACK-WHITE/ANY COLOUR WAVE FWD
8	57%	BLACK-WHITE/ANY COLOUR WAVE REV
	55%	RANDOM COLS. CHASE 1 XFADE. CHASE 2 SNAP
	52%	RAINBOW 2 CROSSFADE FWD (MORE PRIMARIES)
	48%	RAINBOW 2 CROSSFADE REV (MORE PRIMARIES)
7	45%	RAINBOW CROSSFADE FWD
	41%	RAINBOW CROSSFADE REV
6	38%	FOLLOW 3. 18 CONTRASTING COLOURS REV
5	35%	FOLLOW 3. 18 CONTRASTING COLOURS FWD
	32%	18 CROSSFADING COLOURS REV
	30%	18 CROSSFADING COLOURS FWD
4	27%	WHITE/ANY COLOUR/AUTO COLOUR CASCADE REV
	23%	WHITE/ANY COLOUR/AUTO COLOUR CASCADE FWD
3	20%	5 CROSSFADING PASTEL COLOURS
	17%	COLOUR WIPES
2	15%	6 CROSSFADING COLOURS
1	10%	6 SEPARATE COLOURS
	7%	RED GREEN BLUE BAR GRAPHS REV
	5%	RED GREEN BLUE BAR GRAPHS FWD
0	0%	NO CHASE

PMX (RS232/423)
PINS: 1=SCREEN, 2=SIG, 3=SIG, 4=NOT USED, 5=LVS, 18=25VDC (MALE ONLY)

DMX
PINS: 1=SCREEN, 2=DATA, 3=DATA, 4=NOT USED, 5=LVS, 18=25VDC (MALE ONLY)


DIGITAL INPUT



IMPORTANT SAFETY INSTRUCTIONS

Read the Product Instruction Leaflet and this Safety Instructions Leaflet before attempting to install or operate this apparatus.

Keep this leaflet and the Product Instruction Leaflet for future reference.

Observe ALL warnings indicated by the  symbol, both in the Product Instruction Leaflet and on the apparatus.

Follow ALL instructions given in the Product Instruction and this Safety Leaflet. Failure to do so may result in serious injury or death.

Protect the power cord from being walked on or pinched, particularly at plugs, auxiliary outputs, and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer (Pulsar Light of Cambridge Ltd. UK).

Use only with the stand/bracket or other mounting arrangement specified in the Product Instruction Leaflet. In case of doubt, consult with the manufacturer (Pulsar Light of Cambridge Ltd. UK).

Unplug this apparatus before lightning storms or when unused for long periods.

Refer all servicing to suitably qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Clean only with a DRY cloth.

Protect the apparatus from dripping and splashing.


DO NOT place objects containing liquids on the apparatus.

DO NOT use this apparatus near water or in a condensing atmosphere, unless explicitly stated in the Product Instruction Leaflet.

DO NOT block any of the ventilation openings. Install the apparatus as specified in the Instruction Leaflet.

DO NOT defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is for YOUR safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete unit.

Mains Supply Cable colours

Green/Yellow =  Earth / Ground

Brown = Live / Phase / Hot

Blue = Neutral / Grounded Conductor

