

XR4 SPOT



User's Manual Rel 1.4 **GB**

D.T.S. Illuminazione srl - ITALY
<http://www.dts-lighting.it>



The Lighting Company

Made in Italy

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1- TECHNICAL FEATURES

The XR4 Spot is fitted with a Philips MSD 250/2 discharge lamp (GY9,5 lampholder base), with a colour temperature of 8500 °K and a luminous flux of 18,000 Lumens.

Average lifespan is 3000 hours, with replacement recommended before 3200 hours

Other recommended lamps: Osram HSD 250/2, GE CSD 250/2.

The unit incorporates:

Dichroic parabolic reflector

Motorized Focus system

Dimmer (emitted light is controlled by progressive and linear dimming).

Shutter (instantaneous shutter opening/closure).

Strobe: mechanical strobe effect (frequency variable from 0.85 flashes/sec to 10 flashes/sec).

1 gobo rotating wheel (7 indexable 16 bit gobos + open)

1 Colour wheels (8 colours).

Prism (indexable 3 facet prism rotating in both directions).

Electromagnetic ballast.

Pan: 540° in 2.8 seconds (8 or 16 bit) with auto repositioning system.

Tilt: 270° in 2.0 seconds (8 or 16 bit) with auto repositioning system.

USITT Standard DMX 512 input signal.

13 or 17 DMX channels.

4 -eight digit- LED display with 4 buttons.

4 XLR connectors (In and Out) with 3 and 5 pins.

Power supply

Electromagnetic ballast: 230 V (50/60 Hz) standard.

On request: 100 V (50/60 Hz) or 120 V (60 Hz).

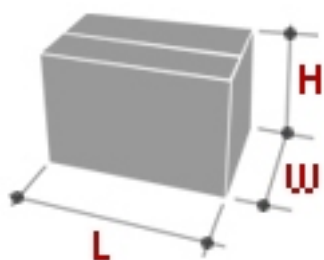
Power consumption: 350 W

Remote Internal motors RESET via DMX

Operating ambient temperature: -10° / 40°C

Weight: 20 Kg

Dimensions (LxWxH)
projector (432x415x590mm)



Packaging Dimensions
(LxWxH)
550 x 440 x 800 mm
Weight
27 Kg



2- IMPORTANT SAFETY INFORMATION

2.1 Fire prevention:

XR4 Spot can fit a Philips MSD250/2, a Osram HSD250/2 or a GE CSD250/2.

The use of any other alternative lamp is not recommended and will null and void the fixture's warranty.

- Never locate the fixture on any flammable surface.
- Minimum distance from flammable materials: 1 MT.
- Minimum distance from the closest illuminable surface: 2 MT.
- Replace any blown or damaged fuses only with those of identical value. Refer to the wiring diagram if there is any doubt.
- Connect the projector to mains power via a thermal magnetic circuit breaker.

2.2 Prevention of electric shock:

- High voltage is present inside the unit. Unplug the unit prior to performing any function which involves touching the inside of the moving head, including lamp replacement.
- The level of technology inherent in the XR4 requires the assistance of specialised personnel for all servicing. Please refer to an authorised DTS service centre.
- A good earth connection is essential for proper functioning of the projector.
- Never connect the unit without proper earth connection.
- The fixture should be located in places with a good air ventilation.

2.3 Protection against ultraviolet radiation:

- Never turn on the lamp if any of the lenses, filters or ABS covering is damaged. Their respective shielding functions will only operate efficiently if they are in perfect working order.
- Never look directly the lamp when it is on.

2.4 Safety:

- The projector should always be installed with bolts, clamps and other tools that are capable of supporting the weight of the unit.
- Always use a second safety cable to sustain the weight of the unit in case of the failure of the main fixing point.
- The external surface of the unit, at various points, may exceed 70°C. Never handle the unit until at least 10 minutes have elapsed since the lamp was turned off.
- Always replace the lamp if any physical damage is evident.
- Never install the fixture in an enclosed area lacking sufficient air flow. The ambient temperature should not exceed 40°C.
- A hot lamp may explode, so always wait for at least 10 minutes prior to attempting to replace the lamp.
- Always wear suitable hand protection when handling the lamp.

2.5 Level of protection against the penetration of solid and liquid objects:

- The projector is classified as an ordinary appliance and its protection level against the penetration of solid and liquid objects is IP 20.

3- MOUNTING THE LAMPS

Warning: Switch off the unit before replacing the lamp.

Philips MSD250/2
Power 250W
Luminous flux 18.000 lm
Colour temperature 8.500°K
Lampbase GY9,5
Rated life 3,000 hours

1) Using a screwdriver, remove the 3 screws X, Y, Z, (photo 1) which fix the lamp holder.



Photo 1



Photo 2



Photo 3

2) Remove the lamp holder assembly and insert the lamp (photo 2).

The lamp used on XR4 Spot is made in quartz glass and should be handled with care. Always follow the instructions supplied in the lamp's packaging. Never touch the glass directly but use the tissue provided in the lamp's packaging. The GY9,5 lamp socket is not symmetrical.

DO NOT USE UNDUE FORCE ON THE GLASS. In case of difficulty, read again the instructions and repeat the procedure.

3) Replace the lamp assembly and tighten the screws X, Y and Z, which were previously removed (photo 3).

3.1 Lamp alignment

Attention: we recommend to align the lamp in the optical system to avoid overheating of the dichroic filters and other components inside the unit.



Photo 4

Apply power and allow the XR4 Spot to reset.

Using either a controller or the control menu (LAMP / ADJUST), strike the lamp and project an open white beam on a flat surface.

Center the hot spot using the 3 adjusters A, B and C (photo 4) until the light is bright and evenly distributed.

4- VOLTAGE AND FREQUENCY

The XR4 Spot with electromagnetic ballast can operate at 230 VOLT 50-60 Hz. On request 100 V (50/60 Hz) or 120 V (60 Hz).

5- INSTALLATION

XR4 Spot may be either floor or ceiling mounted.

For floor mounting installations, the XR4 Spot is supplied with four rubber mounting feet under the base.

For ceiling mounted installations, we recommend the use of appropriate clamps to fix the unit to the mounting surface.

The supporting structure from which the unit is hung should be capable of bearing the weight of the unit, as should any clamps used to hang it. The structure should also be sufficiently rigid so as not to move or shake whilst the Xr4 is moving.

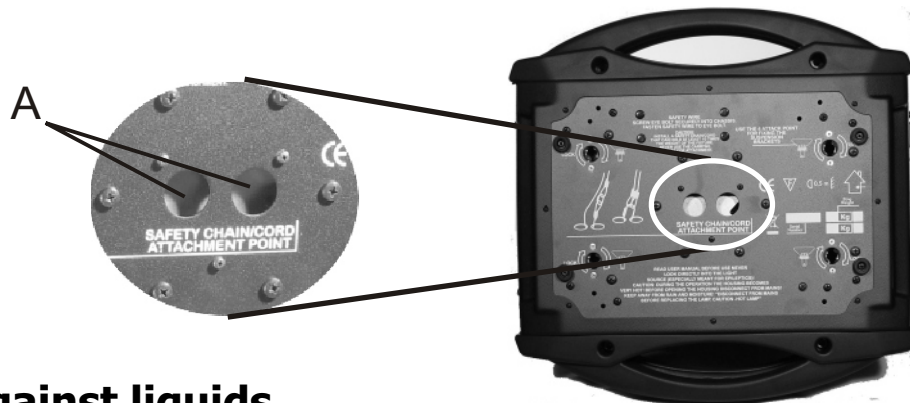
Four quarter turn fast locks placed on the base, allow to fix the unit in any position, by using the two fast lock C clamps provided in the box.



5.1- Safety cable

We recommend the use of a safety cable or chain connected to the Xr4 Spot and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail. Make sure that the iron cable or chain can bear the weight of the entire unit.

You may attach the safety chain to the two holes (A) located on the base of the fixture, as shown in the picture below.



5.2- Protection against liquids

The projector contains electric and electronic components which should under no circumstances come into contact with oil, water or any other liquid. The proper unit functioning would be compromised should this occur.

5.3- Movement

The projector has a maximum movement of 540° for Pan and 270° for Tilt. DO NOT place any obstructions in the path of the projector's movement.



5.4- Risk of fire

Each fixture produces heat and must be installed in a well-ventilated place. The minimum recommended distance from flammable material is 1 MT.

Minimum distance from the object being illuminated is 2 MT.

5.5- Forced ventilation

You will note, on inspection, that the unit features various air inlets and cooling fans located on both the base and head of the fixture. These should, under no circumstances, be blocked or obstructed whilst the projector is in operation.

Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

5.6- Ambient temperature

The projector should never be installed in places that lack a constant air flow. The ambient temperature should NOT exceed 40°C.

6- MAINS CONNECTION

XR4 Spot with electromagnetic ballast operates at 230 VOLT 50-60 Hz.

Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available. For connection purposes, ensure that your plug is capable of supporting 3,15 amps at 230V, Strict adherence to regulatory norms is strongly recommended.



Electromagnetic ballast
230V 50 / 60Hz

6.1- Protection

The use of a thermal magnetic circuit breaker is recommended for each Xr4 Spot.

A good earth connection is essential for the correct operation of the projector.

7- DMX SIGNAL CONNECTION

The unit operates using the digital DMX 512 (1990) signal. Connection between the mixer and the projector or between projectors must be carried out using a two pair screened \varnothing 0.5 mm cable and a CANNON XLR 5 or 3 pins connector.

Ensure that the conductors do not touch each other. Do not connect the cable ground to the XLR chassy. The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first projector to the DMX IN plug of the second one.

This way, all the projectors are cascade connected.

NB. If the display showing the DMX address flashes, then one of the following errors has occurred:

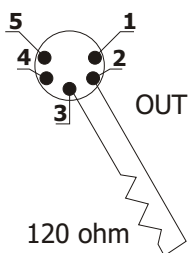
- DMX signal not present
- DMX address not valid
- DMX reception problem



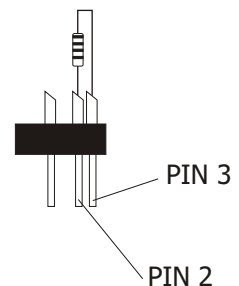
For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.

The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor Between pin 2 and 3.

The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XLR CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE



7.1-DMX Addresses

Xr4 Spot can be used in two different modes: 13 or 17 DMX (default) channels.

If you want to use the Xr4 Spot in 15 channels mode, select the 13 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1	A001	
Projector 2	A014	If you want to select the next projector, just add "13"
Projector 3	A027	
.....	A....	
projector 6	A066	

If you want to use the XR4 Spot in 17 channels mode, select the 17 CH mode from the MODE menu and set the following addresses:

Projector 1	A001	
Projector 2	A018	If you want to select the next projector, just add "17"
Projector 3	A035	
.....	A....	
Projector 6	A086	

7.2-Selecting the DMX address

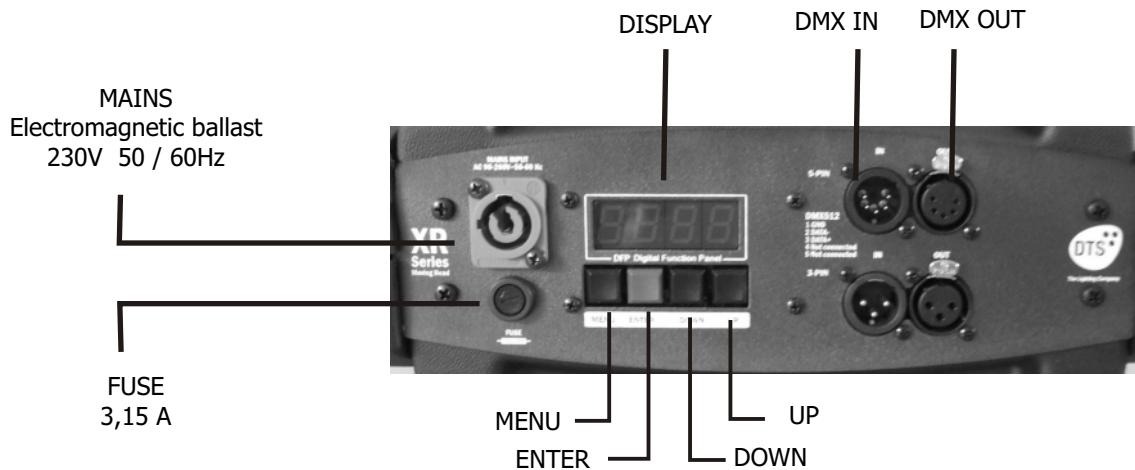
1) Press the UP-DOWN key until you reach the required DMX channel. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).

2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now set to the new DMX address.

TRICKS:

if you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

































8- DISPLAY FUNCTIONS



DISPLAY FUNCTIONS

The Xr4 Spot display panel shows all the available functions . Using these functions, it is possible to change some of the parameters on the unit. Changing the DTS settings can vary the functions of the unit so that it does not respond to the DMX 512 used to control it. Carefully follow the instructions below before carrying out any variations or selections.

NOTE: the symbol  shows which key has to be pushed to obtain the desired function.

		Pd ir			CU	Clockwise	
PAN MOVEMENT INVERSION To reverse Pan movement from left to right and vice versa							
					CCU	Counterclockwise	
		td ir			CU	Clockwise	
TILT MOVEMENT INVERSION To reverse Tilt movement from bottom upwards and vice versa							
					CCU	Counterclockwise	
		d isP			POS 1		
REVERSE DISPLAY To Reverse display's reading depending on the mounting position (On the ground or suspended).							
					Stby		
DISPLAY STAND BY To turn off the display (after 5 seconds) Or leave it always on.							
					off	Display OFF	
					on	Display always ON	
		mode			17CH	17 CHANNELS (Pan & Tilt 16 bit)	
DMX MODE To select DMX mode : 21-15 channels							
					13CH	13 CHANNELS (Pan & Tilt 16 bit)	
							(DEFAULT)

8- DISPLAY FUNCTIONS



TEST MODE
Full test and single function test.

TEST



PAN

PAN

TILT

TILT

DIMMER

DIMMER

SHUTTER

SHUTTER

GOBO1

GOBO1

GOBO1 ROT.

GOBO1 ROT.

GOBO1 SHAKE

GOBO1 SHAKE

PRISM

PRISM

EFFECTS ROT.

EFFECTS ROT.

COLOR

COLOR

FOCUS

FOCUS



RESET
All motors reset

RESET



En

RESET ENABLED VIA DMX



ds

RESET DISABLED VIA DMX



RESET

TOTAL RESET



DEFAULT
To restore default setting

DEFAULT



SURE



SOFTWARE
Software version

SOFT



11

Pcb 8 motors. Pcb PAN&TILT



Fan control
To control the fan speed .

FAN



1



12



(DEFAULT : 6)



SPEED control
Pan Tilt Speed control.

SPEED



1



4



(DEFAULT : 4)



GOBO Rotation
Gobo Rotation during gobo scrolling

rotG



off



GOBO ROTATION DISABLE (DEFAULT)

on



GOBO ROTATION ENABLE



BEAM
Different Focussing settings depending on the Zoom lens mounted on the unit

beam



b1



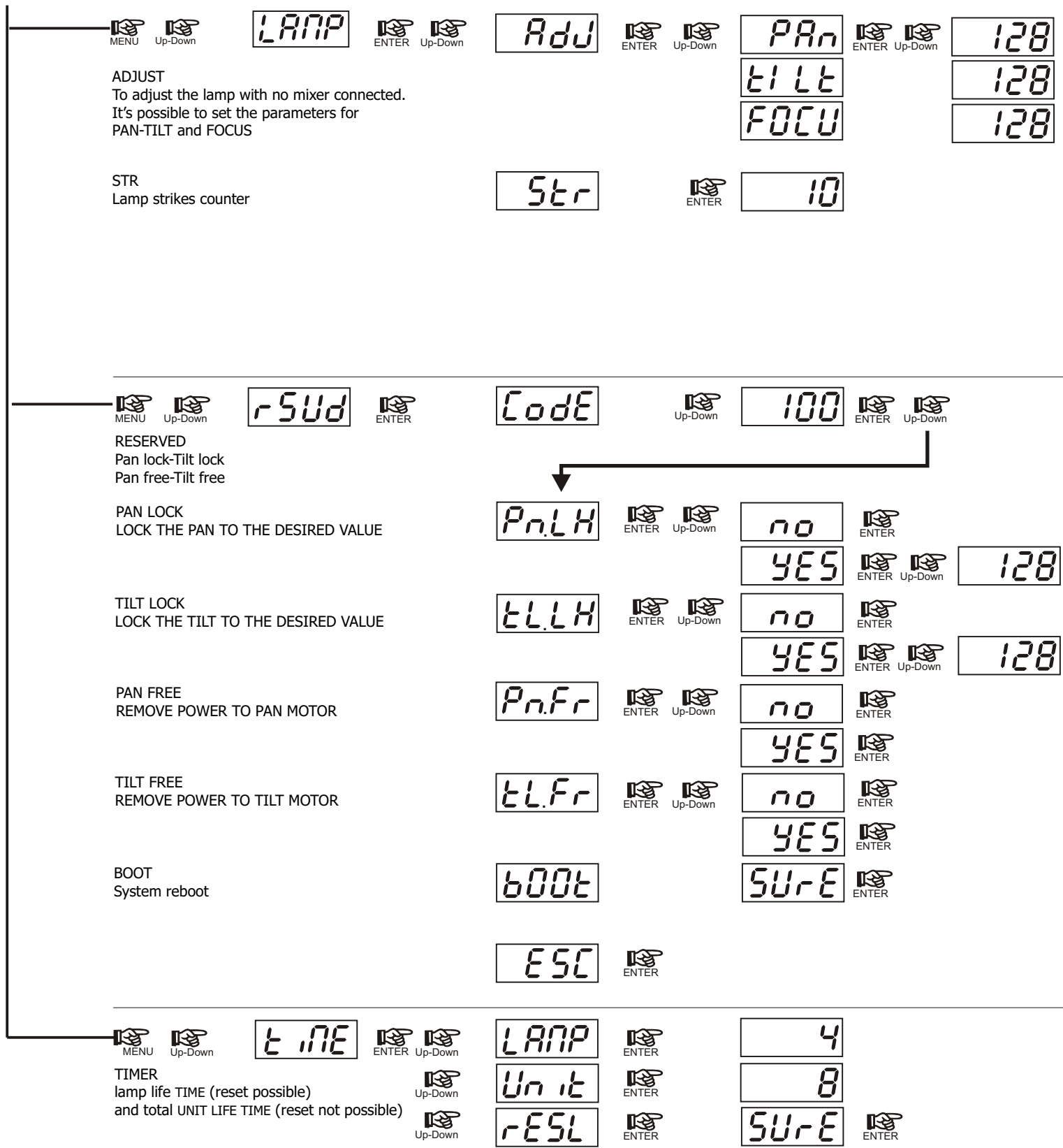
15° BEAM OPENING ANGLE LENS (DEFAULT)

b2



18-21° BEAM OPENING ANGLE LENSES (OPTIONAL)

8- DISPLAY FUNCTIONS



10- PAN & TILT SPEED (SPEE) (default: 4)

You can set the PAN and TILT motors at high speed on your XR4 Spot.

Press menu until you see SPEE.











Press ENTER and select a speed with UP-DOWN (there are 4 speeds). Confirm by pressing ENTER.

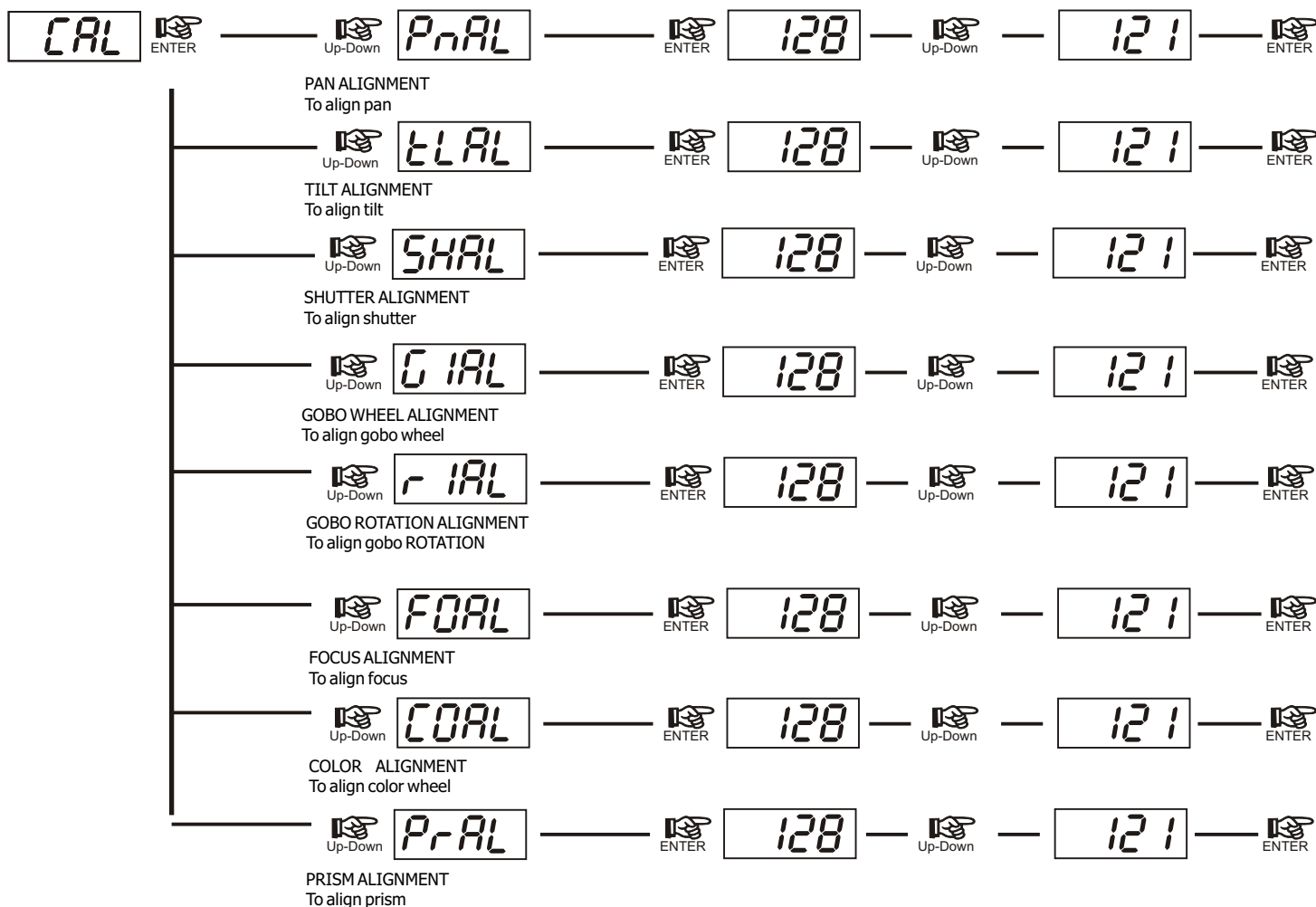
When you use speed 4 (the highest) PAN and TILT speed is very high and your projector may lose its path. In this case, the encoder corrects the position.

11- FAN SPEED (FANS)(default: 12)

Fan speed regulation makes it possible to reduce fan noise. However, the ambient temperature must be less than 35° C.

11- ERROR MESSAGES

	—	ERROR: ENCODER PAN
	—	ERROR: ENCODER TILT
	—	ERROR: DMX ADDRESS
	—	ERROR: LOAD DATA EEPROM
	—	ERROR: INTERNAL COMMUNICATION
	—	ERROR: SYNCHRONIZED FREQUENCY MEASURE(SYNCHRONISM FOR LAMP ON)
	—	ERROR: COLOR WHEEL POSITION
	—	ERROR: GOBO WHEEL POSITION
	—	ERROR: GOBO WHEEL INDEX
	—	ERROR: FOCUS POSITION



13- OPENING THE PROJECTOR HOUSING

It is possible to inspect the inside of the projector by removing the cover as indicated below.

ATTENTION

REMOVE MAINS POWER PRIOR TO ACCESSING THE PROJECTOR'S INTERNAL COMPONENTS.

- 1) Loosen the 3 screws which fix the head covers (photo 1) .
- 2) Once unscrewed, simply lift the covers to access the internal components (photo 2).



Photo 1



Photo 2

14- REPLACING GOBOS

XR4 Spot uses a mechanical system which allows the fixture's gobos to be removed without the use of special tools. Replacement gobos should be made of either heat resistant glass or metal.

An ever-increasing range of gobos is available from your DTS sales network.

Gobo dimensions are as follows:

ø external = 27.9 mm

ø of image with defined edge = 24 mm

thickness = from 0.2 to 4 mm (see catalogue)

Replacing gobos on the rotating gobo wheel

When replacing gobos, ensure that the projector is switched off.

- 1) Open the projector housing as described above.
- 2) Remove the gobo holder to allow easier access to the gobo(photo 1 and 2).
- 3) Release the gobo retaining spring and carefully remove the gobo (photo 3).
- 4) Reverse the procedure to install a replacement gobo.



Photo 1

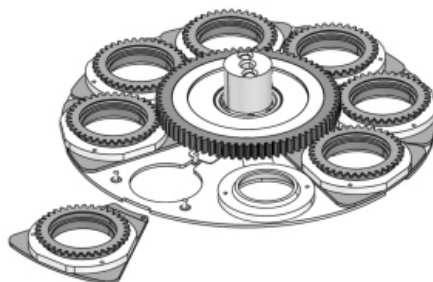


Photo 2



Photo 3

15- PERIODIC CLEANING

15.1- Lenses and reflectors

Even a fine layer of dust can reduce the luminous output substantially. Regularly clean all lenses and the reflector using a soft cotton cloth, dampened with a specialist lens cleaning solution.

15.2- Fans and air passages

The fans and air passages must be cleaned approximately every 6 weeks. This periodic cleaning will depend on the conditions in which the projector operates. Suitable instruments for performing this type of maintenance are a brush and a common vacuum cleaner or an air compressor. If necessary, clean the fans and air passages more frequently.

16- PERIODIC CONTROLS

Lamp

The lamp should be replaced if there is any visible damage or deformation due to heat. This will help to avoid the danger of the lamp exploding.

Mechanical parts

Periodically check all mechanical parts, gears, guides, belts, etc. for wear and tear, replacing them if necessary. Periodically check the lubrication of all components, particularly the parts subject to high temperatures. If necessary, lubricate with suitable lubricant, available from your D.T.S. distributor. Check the tension of the belts and adjust it if necessary.

Electrical components

Check all electrical components for correct earthing and proper connection of all connectors, refastening if necessary.

Fuse replacement

Locate the fuse, which protects the lamp and electronics, in the base of the Xr4 Spot. Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type if necessary.

Attention

Disconnect mains power prior to removing the projector housing.

17- DMX PROTOCOL

13 CHANNELS MODE

- 1 PAN msb 540°**
- 2 PAN lsb**
- 3 TILT msb 270°**
- 4 TILT lsb**
- 5 SPEED MOVEMENT**
- 6 DIMMER**
- 7 SHUTTER**
- 8 COLOUR**
- 9 GOBO**
- 10 GOBOINDEX / ROTOGOBO / ROTOPRISM**
- 11 PRISM**
- 12 FOCUS**
- 13 RESET**

DMX CHANNEL	1	Parameter: PAN msb
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DMX CHANNEL	2	Parameter: PAN lsb
-------------	----------	---------------------------

DMX CHANNEL	3	Parameter: TILT msb
-------------	----------	----------------------------

DMX CHANNEL	4	Parameter: TILT lsb
-------------	----------	----------------------------

DMX CHANNEL	5	Parameter: SPEED MOVEMENT
-------------	----------	----------------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-10	5				Standard
11-25	18				Fast movement
26-127					Vector mode from fast to slow
128-247					Variable time reaction to DMX signal (fast to slow)
248-255	251				Slow reaction time to DMX signal

DMX CHANNEL	6	Parameter: DIMMER
-------------	----------	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-7	4				Black-out
8-255					Proportional dimmer

DMX CHANNEL	7	Parameter: SHUTTER
-------------	---	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-19					Black-out
20-39					Open
40-59					Black-out
60-79					Random Strobe
80-89					Strobe speed 1 min.
90-99					Strobe speed 2
100-109					Strobe speed 3
110-119					Strobe speed 4
120-129					Strobe speed 5
130-139					Strobe speed 6 max.
140-149					Pulse open speed 1 min.
150-159					Pulse open speed 2
160-169					Pulse open speed 3
170-179					Pulse open speed 4 max.
180-189					Pulse closed speed 1 min.
190-199					Pulse closed speed 2
200-209					Pulse closed speed 3
210-219					Pulse closed speed 4 max.
220-227					Colour and Gobo in black-out
228-233					Pan and Tilt in black-out
234-255					Open

DMX CHANNEL	8	Parameter: COLOUR
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-10	5				Colour1 (White)
11-21	16				Bicolour ½
22-32	27				Colour2
33-43	38				Bicolour 2/3
44-54	49				Colour3
55-65	60				Bicolour 3/4
66-76	71				Colour4
77-87	82				Bicolour 4/5
88-98	93				Colour5
99-109	104				Bicolour 5/6
110-120	115				Colour6
121-131	126				Bicolour 6/7
132-142	137				Colour7
143-153	148				Bicolour 7/8
154-164	159				Colour8

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
165-175	170				Bicolour 8/9
176-186	181				Colour9
187-197	192				Bicolour 9/1
198-200	199				Right rotation speed 1 max.
201-203	200				Right rotation speed 2
204-206	205				Right rotation speed 3
207-209	208				Right rotation speed 4
210-212	211				Right rotation speed 5
213-215	214				Right rotation speed 6
216-218	217				Right rotation speed 7
219-221	220				Right rotation speed 8
222-224	223				Right rotation speed 9 min.
225-228	226				Stop
229-231	230				Left rotation speed 1 min.
232-234	233				Left rotation speed 2
235-237	236				Left rotation speed 3
238-240	239				Left rotation speed 4
241-243	242				Left rotation speed 5
244-246	245				Left rotation speed 6
247-249	248				Left rotation speed 7
250-252	251				Left rotation speed 8
253-255	254				Left rotation speed 9 max.

DMX CHANNEL	9	Parameter: GOBO
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-25	12				Open
26-51	38				Gobo 1
52-77	64				Gobo 2
78-103	90				Gobo 3
104-129	116				Gobo 4
130-155	142				Gobo 5
156-181	168				Gobo 6
182-207	194				Gobo 7
208-213	210				Speed rotation 1 min.
214-219	216				Speed rotation 2
220-225	222				Speed rotation 3
226-231	228				Speed rotation 4
232-237	234				Speed rotation 5
238-243	240				Speed rotation 6
244-249	246				Speed rotation 7
250-255	252				Speed rotation 8 max.

DMX CHANNEL	10	Parameter: GOBO INDEX - ROTOGOBO -ROTOPRISM
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-127					Proportional index 0° / 360°
128-180					Left rotation from max to min
181-202					Stop
203-255					Right rotation from min to max

DMX CHANNEL	11	Parameter: PRISM
-------------	-----------	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-127					No effect
128-255					Prism inserted

DMX CHANNEL	12	Parameter: FOCUS
-------------	-----------	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					Linear Focus

DMX CHANNEL	13	Parameter: RESET
-------------	-----------	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-239					No Effect
240-255					Total Reset

17 CHANNELS MODE (DEFAULT)

1	PAN msb 540°
2	PAN lsb
3	TILT msb 270°
4	TILT lsb
5	SPEED MOVEMENT
6	DIMMER
7	SHUTTER
8	COLOUR
9	COLOUR MODE
10	GOBO 1
11	GOBO 1 MODE
12	GOBO 1 PRISM ROTATION - INDEX
13	GOBO 1 INDEX FINE 16 bit
14	GOBO 1 SHAKE
15	PRISM
16	FOCUS
17	RESET

DMX CHANNEL	1	Parameter: PAN msb
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DMX CHANNEL	2	Parameter: PAN lsb
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DMX CHANNEL	3	Parameter: TILT msb
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DMX CHANNEL	4	Parameter: TILT lsb
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DMX CHANNEL	5	Parameter: SPEED MOVEMENT
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-10	5				Standard
11-25	18				Fast movement
26-127					Vector mode from fast to slow
128-247					Variable time reaction to DMX signal (fast to slow)
248-255	251				Slow reaction time to DMX signal

DMX CHANNEL	6	Parameter: DIMMER
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-8	4				Black-out
9-255					Proportional dimmer

DMX CHANNEL	7	Parameter: SHUTTER
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-19					Black-out
20-39					Open
40-59					Black-out
60-79					Random Strobe
80-89					Strobe speed 1 min.
90-99					Strobe speed 2
100-109					Strobe speed 3
110-119					Strobe speed 4
120-129					Strobe speed 5
130-139					Strobe speed 6 max.
140-149					Pulse open speed 1 min.
150-159					Pulse open speed 2
160-169					Pulse open speed 3
170-179					Pulse open speed 4 max.
180-189					Pulse closed speed 1 min.
190-199					Pulse closed speed 2
200-209					Pulse closed speed 3
210-219					Pulse closed speed 4 max.
220-227					Colour and Gobo in black-out
228-233					Pan and Tilt in black-out
234-255					Open

DMX CHANNEL	8	Parameter: COLOUR
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
IF CHANNEL 9 = FULL COLOUR (Dmx range value 0 - 63)					
0-27					Colour1 (White)
28-55					Colour2
56-83					Colour3
84-111					Colour4
112-139					Colour5
140-167					Colour6
168-195					Colour7
196-223					Colour8
224-255					Colour9

DMX CHANNEL	8	Parameter: COLOUR
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
IF CHANNEL 9 = HALF COLOUR (Dmx range value 64 - 127)					
0-25					Colour1 (White)
26-51					Bicolour ½
52-77					Bicolour 2/3
78-103					Bicolour 3/4
104-129					Bicolour 4/5
130-155					Bicolour 5/6
156-181					Bicolour 6/7
182-207					Bicolour 7/8
208-233					Bicolour 8/9
234-255					Bicolour 9/1
IF CHANNEL 9 = PROPORTIONAL COLOUR (Dmx range value 128 - 191)					
0-10					Colour1 (White)
11-255					Proportional colour
IF CHANNEL 9 = RAINBOW (Dmx range value 192 - 255)					
0-9					Colour1 (White)
10-127					Right Rot.Speed from Max to Min
128-137					Stop
138-255					Left Rot.speed from Min to Max

DMX CHANNEL	9	Parameter: COLOUR MODE
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-63					Full Colour
64-127					Half Colour
128-191					Proportional Colour
192-255					Rainbow

DMX CHANNEL	10	Parameter: GOBO
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-25					Open
26-51					Gobo 1
52-77					Gobo 2
78-103					Gobo 3
104-129					Gobo 4
130-155					Gobo 5
156-181					Gobo 6
182-207					Gobo 7
208-213					Rotation speed 1 min.

DMX CHANNEL	10	Parameter: GOBO 1
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
214-219					Rotation speed 2
220-225					Rotation speed 3
226-231					Rotation speed 4
232-237					Rotation speed 5
238-243					Rotation speed 6
244-249					Rotation speed 7
250-255					Rotation speed 8 Max

DMX CHANNEL	11	Parameter: GOBO MODE
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-127					Gobo Rotation Mode
128-255					Gobo Index Mode

DMX CHANNEL	12	Parameter: GOBO / PRISM ROTATION / INDEX
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
IF CHANNEL 11 = Gobo Rotation Mode (Dmx range value 0 - 127)					
0-9					Stop
10-127					Counterclockwise rotation with prop. Speed from Max to Min
128-137					Stop
138-255					Clockwise rotation with prop. Speed from Min to Max
IF CHANNEL 11 = Gobo Index Mode (Dmx range value 128 - 255)					
0-255					Gobo index Coarse

DMX CHANNEL	13	Parameter: GOBO INDEX FINE
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					Gobo Index Fine

DMX CHANNEL	14	Parameter: GOBO SHAKE
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9					Stop
10-22					Gobo Shake R-L Speed 1 Min.
23-35					Gobo Shake R-L Speed 2
36-48					Gobo Shake R-L Speed 3

DMX CHANNEL	14	Parameter: GOBO SHAKE
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
49-61					Gobo Shake R-L Speed 4
62-74					Gobo Shake R-L Speed 5
75-87					Gobo Shake R-L Speed 6
88-100					Gobo Shake R-L Speed 7
101-113					Gobo Shake R-L Speed 8
114-126					Gobo Shake R-L Speed 9 Max
127-138					Stop
139-151					Gobo Shake L-R Speed 1 Min
152-164					Gobo Shake L-R Speed 2
165-177					Gobo Shake L-R Speed 3
178-190					Gobo Shake L-R Speed 4
191-203					Gobo Shake L-R Speed 5
204-216					Gobo Shake L-R Speed 6
217-229					Gobo Shake L-R Speed 7
230-242					Gobo Shake L-R Speed 8
243-255					Gobo Shake L-R Speed 9 Max

DMX CHANNEL	15	Parameter: PRISM
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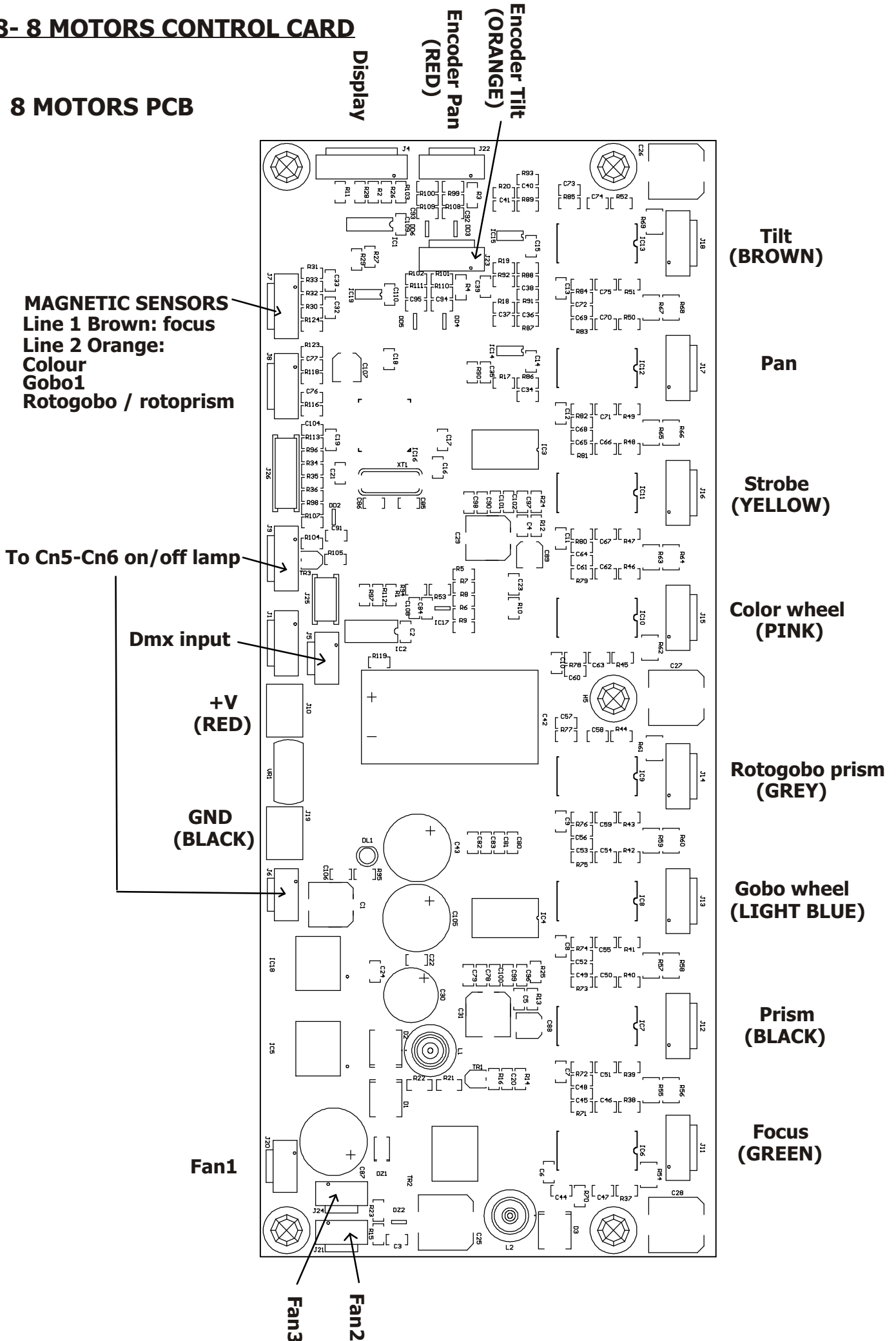
DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-127					No effect
128-255					Prism inserted

DMX CHANNEL	16	Parameter: FOCUS
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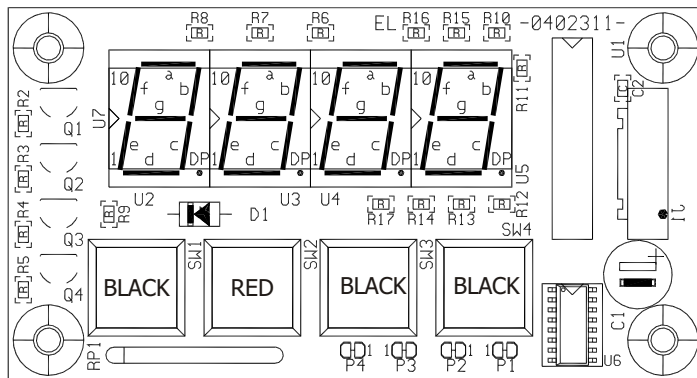
DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					Linear Focus

DMX CHANNEL	17	Parameter: RESET
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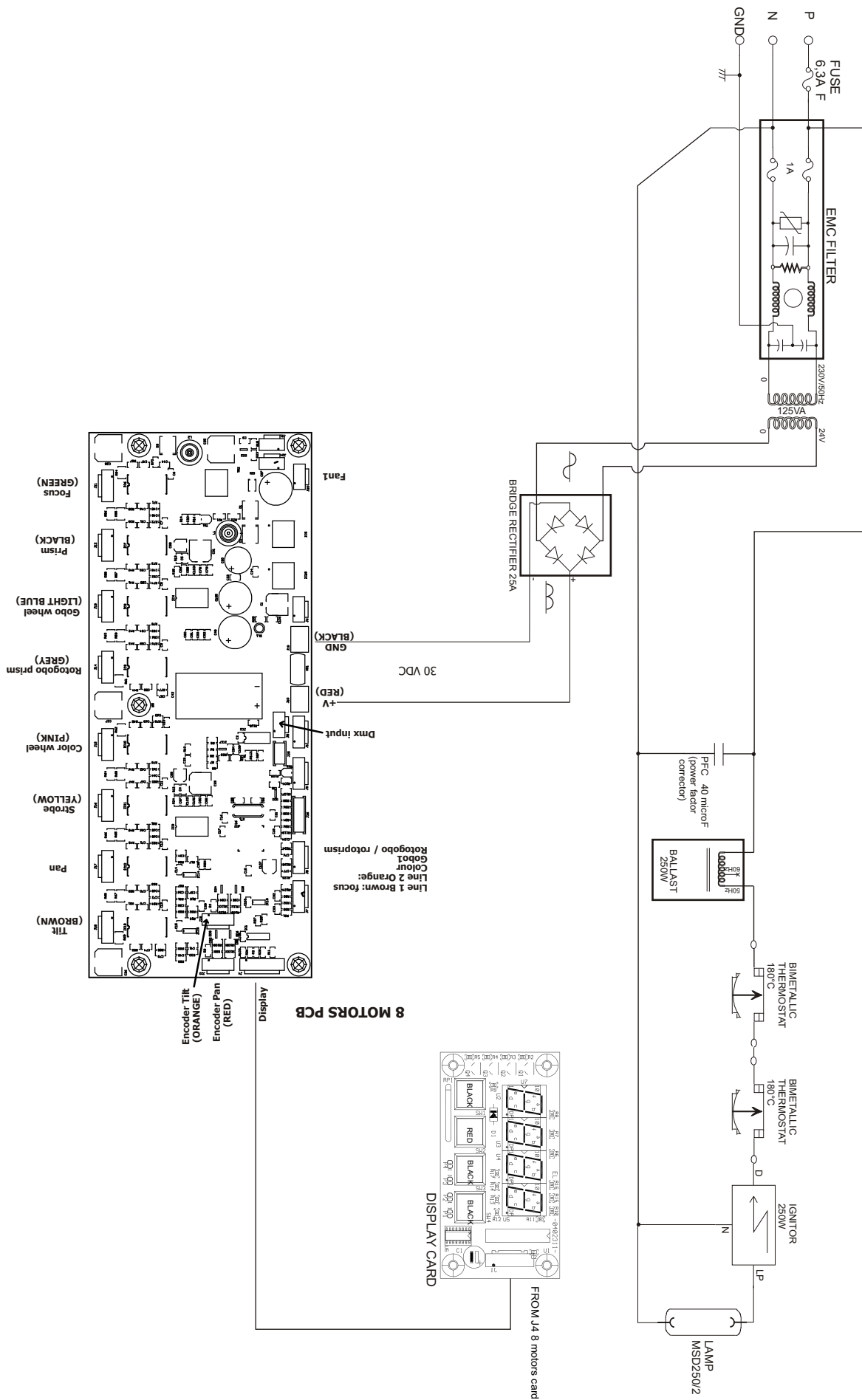
DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-239					No Effect
240-255					Total Reset

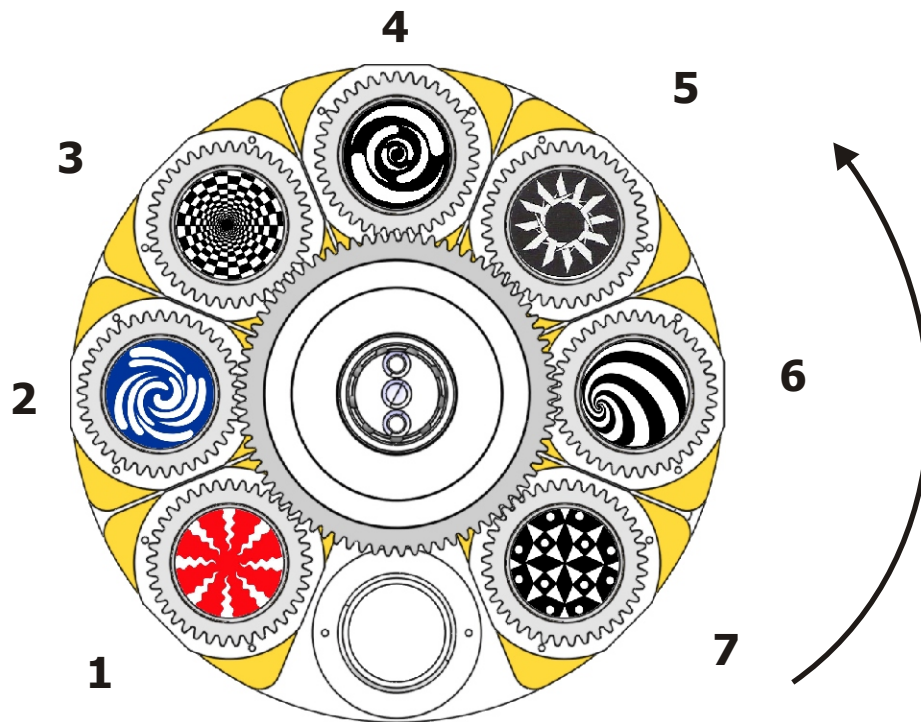
18- 8 MOTORS CONTROL CARD**8 MOTORS PCB**

19-DISPLAY CARD



20-WIRING DIAGRAM

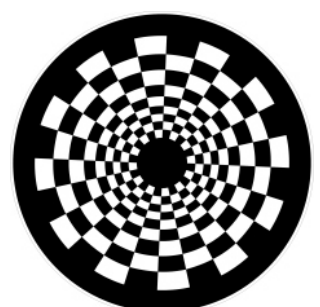


21- ROTATING GOBO WHEEL**GOBO 1 DICRO**

0516G029.02

GOBO 2 DICRO

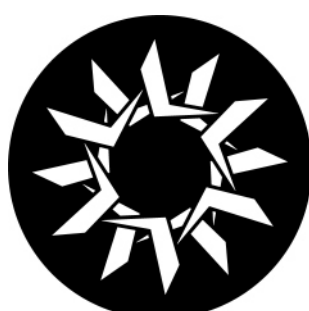
0516G029

GOBO 3 DICRO

0516G029.01

GOBO 4 METAL

0516G030.01

GOBO 5 METAL

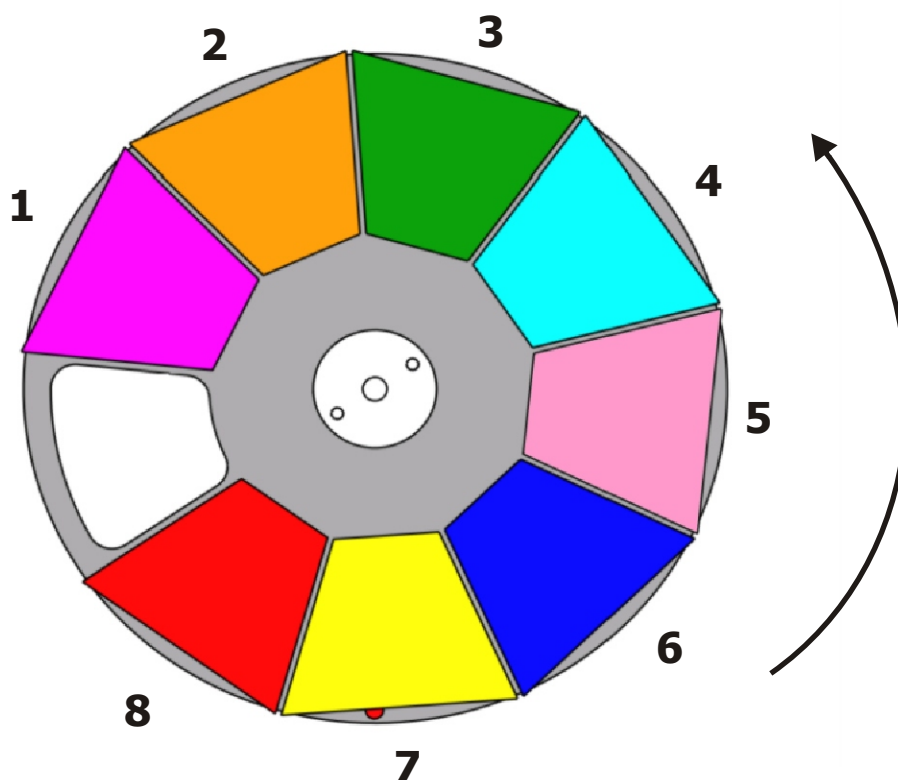
0516G030.02

GOBO 6 METAL

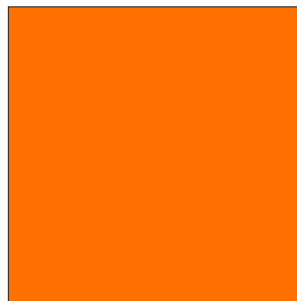
0516G030.03

GOBO 7 METAL

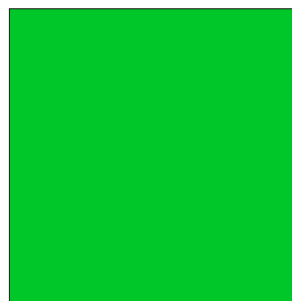
0516G030.04

22- COLOUR WHEEL**COL1**

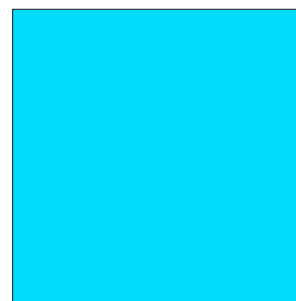
0507C043.D01
LAVANDER SL0064

COL2

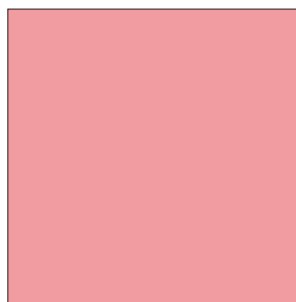
0507C051.D01
ORANGE LW590

COL3

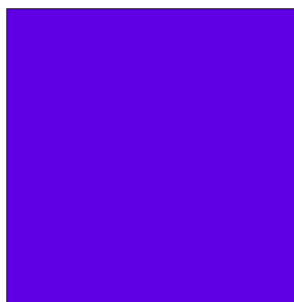
0507C042.D01
GREEN WB5055

COL4

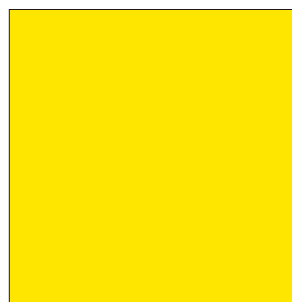
0507C045.D01
CYAN SW 530

COL5

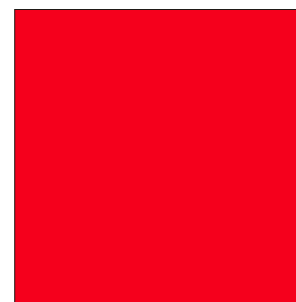
0507C052.D01
PINK SL4761

COL6

0507C041.D01
DARK BLUE SW490

COL7

0507C049.D01
YELLOW LW 515

COL8

0507C047.D01
RED LW 640

NOTES:

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NOTES:

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