

# CANTO® FOLLOWSPOT OPERATING INSTRUCTIONS

FOR THE NORTH AMERICAN REGION 120/208V 60 HZ

# **MODELS COVERED**

01207080 Canto® Astro 250

A01607170 Canto® Astro 600

We hope that this product will meet your requirements, but if for any reason this should not be the case, we ask that you contact us directly at **888-252-5912** to help address your needs. We wish to provide all of our customers with the best quality products available. The product you purchased has been manufactured with maximum care in construction and choice of components. If you have received your equipment damaged for any reason beyond our control, please contact your local dealer who supplied the product to you within 72 hours after receiving our product.



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#### CAREFULLY READ THE OPERATING INSTRUCTIONS BEFORE USING THIS FIXTURE.

The instructions given here ensure safe usage of this product. User's failure to comply with the installation, operation, maintenance and safety procedures mentioned in this manual as well as those generally applicable to lighting equipment, may cause the fixture not to perform as expected.

CantoUSA accepts no liability for direct, indirect, incidental, special, or consequential damages resulting from the customer's failure to follow the installation, operating, maintenance and safety procedures described in this manual. These limitations extend to damages for personal injury, property damage, loss of operation, loss of profits, loss of product or loss of time, whether incurred by the customer, the customer's employees, or third-party vendors or users.

Apart from the instructions given in this manual, all relevant safety and health standards of the appropriate local city and state electrical / safety directives must be complied with.

<u>PLEASE SEE OUR GENERAL TERMS OF SALE AND WARRANTY CARD PROVIDED WITH YOUR NEW EQUIPMENT OR</u> EMAIL US FOR A COPY AT ANY TIME.

#### 1. IMPORTANT SAFETY NOTES

This product may reach high temperatures depending on the model ordered. Avoid any direct contact with its metal exhaust parts.

\*NEVER WORK INSIDE AN OPERATING UNIT WITHOUT IT BEING COOLED AND UNPLUGGED FROM POWER SOURCE. NEVER EVER WORK INSIDE A UNIT THAT IS TURNED ON.

#### \*WARNING: HIGH VOLTAGE IGNITION, DISCONNECT THE UNIT FROM POWER BEFORE SERVICING

- \* Continuous mains power is required for this spotlight as an internal dimmer controls the intensity via DMX or local rotary knob. An accessory moving manual dimmer is furthermore available for positioning on the side grab handles.
- \* Use of a phase control dimmed mains supply may damage the internal electronics.
- \* This product features fan-assisted ventilation. Make sure you do not cover the fans or obstruct the air flow at any one time.
- \* Make sure the fans are working correctly. Should you detect even the slightest malfunction, switch the luminaire off and carry out the necessary servicing. Replace the fans if necessary.
- \* This product is rated IP 20 and is therefore designed for interior use only. For details on maximum ambient temperature, minimum distance from flammable objects and tilt angle, please refer to what indicated on the product label.
- \* Repairing and replacement of any component of this product must be carried out exclusively by professional personnel in conformity with the relevant safety and health standards and only with original Canto USA components.
- \* Replacement of any part of the wiring system must be carried out exclusively by professional personnel in compliance with the original wiring diagram and with components identical to or compatible with those originally fitted.
- \* Installation of this product must be exclusively carried out by professional personnel



# BEFORE YOU GET STARTED, PLEASE READ THIS INSTRUCTION MANUAL COMPLETELY.

#### 2. CHECKING BOX CONTENTS:

Upon opening the boxes, please make sure the boxes contain the following items:

#### **FOLLOWSPOT:**

#### A. In case you bought just the followspot

#### 1. Fixture:

- a. Followspot in the chosen model
- b. Separate mains power cable with PowerCon
- c. Iris diaphragm
- d. 28mm spigot with M12 self locking nut and plain washer
- e. Clamp-on digital dimmer A20702071

#### B. In case you bought the complete kit

- a. Followspot in the chosen model
- b. Separate mains power cable with PowerCon
- c. Iris diaphragm
- d. 28mm spigot with M12 self locking nut and plain washer
- e. Clamp-on digital dimmer A20702071

#### **TRIPOD STAND:**

Tripod – May or may not include casters for the tripod. Casters are an accessory that can be purchased.

#### 3. MOUNTING THE SPIGOT:

Make sure the tripod you are going to use features a (28mm) top aperture for the supplied spigot.

Remove the M12 nut and washer from the spigot and insert the threaded end into the center hole of the yoke of the followspot from beneath the yoke. Tighten the M12 nut with a suitable tool so that the spigot securely holds the followspot in place but allows proper movement of the fixture.

Loosen the "T" Handle screw where the spigot inserts into the tripod. Mount the followspot onto the tripod. Place the tripod in such a manner where the "T" Handle screw runs parallel to the yoke. Make sure the spigot shaft sits 12mm above the base of the tripod. There is a recess in the spigot shaft just below the base that is a good indication of where to mount the spigot. Make sure the area you are placing the product on can withstand the product load (see product label to check on weight) i.e. catwalk or balcony.



#### 4. MOUNTING THE COLOR CHANGER:

- 1. At the front of the followspot, lossen the 2 phillips screws from one of the two front color runners.
- 2. Repeat with the second color runner.
- 3. Mount color filters on the color changer units. See relevant instructions supplied with the color changer.
- 4. Position the color changer unit on the front plate of the followspot, making sure that the color levers are positioned on the right-hand side of the followspot when viewed from behind and hang it to the previously positioned screws.
- 5. Release the color filters of the color changer in order to have access to the screws and tighten them.
- 6. Ensure the color changer unit is secure, and all three screws are tight.

#### 5. MOUNTING THE IRIS DIAPHRAGM:

The iris diaphragm supplied with the followspot has 20 leaves to size the beam from a maximum aperture of 68mm to a minimum of 5mm. A black-out iris diaphragm is available to special order.

- 1. Using a Phillips screw-driver remove the two phillips screws from the sides of the iris plate.
- 2. Slide the diaphragm in the gate area.
- 3. Tighten the screws.

IMPORTANT NOTICE: DO NOT LEAVE THE IRIS CLOSED FOR OVER 5 MINUTES WHILE THE LED IS ON

FAILURE TO COMPLY WITH THE ABOVE NOTICE MAY CAUSE THE IRIS AND THE FOLLOWSPOT TO SUFFER MAJOR HEAT DAMAGE AND WILL INVALIDATE THE PRODUCT WARRANTY.

#### 6. SHUTTER BLADES:

Shutter blades are not supplied with the unit, but are available as a separate accessory. They are sold as single items and the relevant part number is R80208019. 4 are required.

#### 7. ADJUSTING THE YOKE:

This followspot is provided with a yoke balancing adjustment. The balancing point is factory set for a standard usage of the product configuration supplied (without color); however, should you need to adjust the balancing, please proceed as follows:

- 1. The followspot must be mounted on the tripod stand with all relevant accessories attached.
- 2. Using a Phillips screw-driver, loosen the 2 (M5) screws on each side of the mounting plate of the yoke.
- 3. Gently slide the followspot backward or forward to the required position.
- 4. Make sure the yoke is correctly aligned horizontally.
- 5. Tighten the 45mm screws.



#### 8. WIRING:

Before being connected to power, please make sure that the unit is outfitted with a suitable plug. Make sure the plug conforms to the lamp power load. This fixture must be grounded. Ensure the plug conforms to the relevant local safety requirement and UL electrical standards.

To perform a correct wiring, please note that the cores in this mains lead are color-coded as follows:

#### Ground: green+yellow - Neutral: blue - Hot: brown

In case the colors of the wires do not correspond to the color of the connection points on your plug, please proceed as follows:

- The green or green and yellow wire is ground and must be connected to the connection point marked with the letter E or with the symbol  $\frac{1}{2}$  or colored in green or in green+yellow
- The blue wire is neutral and must be connected to the connection point marked with the letter N or with the symbol ± or colored in black
- The brown wire is hot and must be connected to the connection point marked with the letter L or with the symbol  $\frac{1}{7}$  or colored in red

Before you finally position this product for use, temporarily connect it to a properly fused power supply to check the lamp works correctly.

#### 9. VOLTAGE:

Before operating this unit please refer to the product label mounted at the back of the luminaire to check you are operating with the correct voltage.

The Astro 250 LED and 600 LED can be operated between 120V and 208 V.

#### 10. LOCAL CONTROL PANEL AND OPERATION:

OPERATION: LCD display for DMX address, system setup and status details.

POWER: power LED status indicator, red color. ON= power

DMX: DMX LED status indicator, green color. LED OFF = DMX OFF and manual control activated,

LED ON = DMX MODE activated with no DMX signal, FLASHING LED = receiving DMX

 $\ensuremath{\mathsf{MENU}}\xspace$  : rotary switch selector to select and modify the operational modes.

Turn left or right to navigate through the menu and press to select or to confirm

DMX IN: input DMX signal (pin1=0, pin2= DATA-, pin3=DATA+).

DMX OUT: Loop through DMX signal output

POWER IN: Mains power input POWER OUT: Mains power output



#### **11 MENU:**

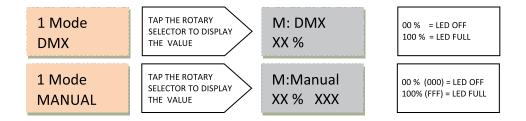
There are fourteen different menus to control the settings of ASTRO LED. The rotary selector is used to adjust the settings and to navigate through the menu. Turn left or right to select the menu and push to access or to confirm the selected data or functions. To exit the selected menus without saving the data, press the rotary selector for at least 1 second.

## 11.1 DMX OR MANUAL (MODE):

Select the LED control mode between OMX (factory setting) and manual. To change the control mode press once the rotary selector until an arrow (0) appears on the menu. Turn the selector to the right or the left to select the desired mode of operation and press to confirm your selection.



Tap the rotary selector and the LCD screen will display the mode status and the current value:



## 11.2 DMX ADDRESS (ADDR):

It allows to select the initial DMX starting address to remotely control the LED functions. To change the initial DMX address press the rotary switch until an arrow appears, then turn to change to the desired DMX starting address. Press to confirm your selection. Factory setting is 001.





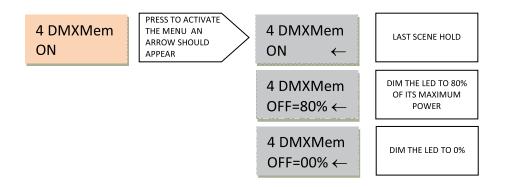
## 11.3 DIMMER RESOLUTION (8/16B):

The dimming resolution can be controlled at 8 bits from one DMX channel to 16 bits with 2 DMX channels. Factory setting is 8 Bit.



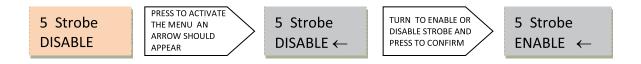
## 11.4 LOST DMX SIGNAL (DMXMEM):

In case of signal failure this function allows to store in memory the last DMX value. Factory setting is ON. Three options are available:



## 11.5 STROBE (STROBE):

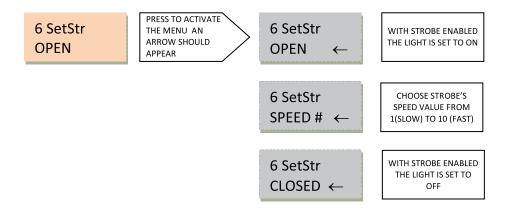
This function allows to activate the strobe function. Factory setting is DISABLE.





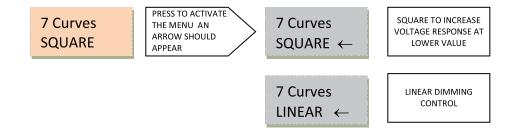
## 11.6 STROBE SPEED (SETSTR):

It allows to set the strobe speed. This menu is not active when the strobe function is disabled or when it is remotely controlled through DMX. Factory setting is OPEN.



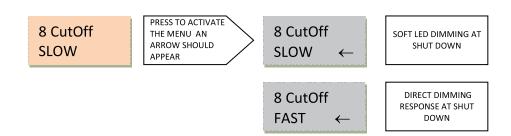
## 11.7 DIMMING CURVE (CURVES):

This function allows to select a response curve for the Astro. A choice of two curves is available: Square and Linear. Factoring setting is SQUARE.



## 11.8 CUT OFF DIMMING RESPONSE (CUTOFF):

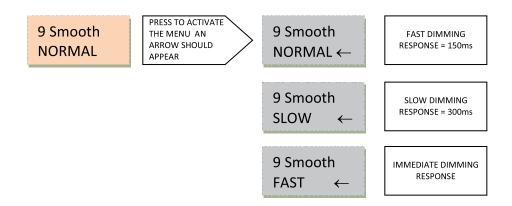
This function allows to select a LED behavior simulating a tungsten-halogen lamp during the dimming cut off. Factory setting is SLOW.





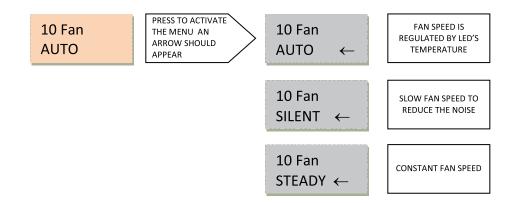
## 11.9 DIMMING BEHAVIOR (SMOOTH):

This function allows to set the LED dimming response. Factory setting is NORMAL.



## 11.10 FAN SETTING (FAN):

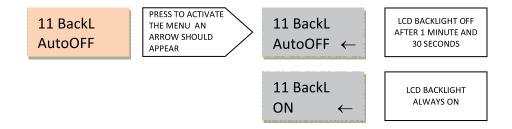
This function allows to set the fan's response. A choice of three modes is available: Automatic, Silent or Steady. When fan is in Auto mode, the speed is controlled by the LED temperature. In Silent mode the fan runs slowly to reduce noise. In Steady mode the fan runs at constant speed, halfway between the minimum and maximum speed. In all cases, if the LED temperature exceeds the maximum admitted value, the LED is protected by a de-rating security system. Factory setting is AUTO.





## 11.11 LCD SCREEN ILLUMINATION (BACKL):

This function allows to turn off the LCD backlight, the POWER led and the DMX led light after 1'30" from the last setting. Factory setting is AutoOFF.



## 11.12 TEMPERATURE CONTROL (TLED):

This function allows to visualize the LED temperature. Factory setting is °C.



## 11.13 SOFTWARE VERSION (SWVER):

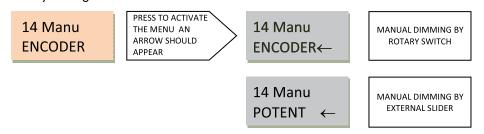
This function allows to visualize the software version.

## 11.14 MANUAL DIMMER TYPE (MANU):

This function allows to select the manual dimmer type. An additional movable manual dimmer, which can be clamped-on In any position of each of the side control handles, is available as an additional accessory as follows:

A20702071 ASTRO SIDE-HANDLE CLAMP-ON MANUAL DIMMER

Factory setting is ENCODER





#### **HIDDEN MENUS**

There are also four different hidden menus to select the advanced settings of the ASTRO LED. To activate this function turn OFF and ON the Astra by pressing the rotary switch at power on.

## 11.15 PRO OR BASIC CONTROL (PROBASIC):

The PRO-BASIC control is a special function which allows to limit the access to the control menu. Select ProBasic with the rotary switch and press to access the menu. Select: PRO, to enable access to all the functions BASIC, to limit access to functions 5.1 DMX or MANUAL MODE, 5.2 OMX ADDRESS, 5.12 Temperature Control and S,13 Software version. Factory setting is PRO.



## 11.16 FACTORY SETTINGS (RESET):

The RESET control is a special function which allows to RESET the product to factory settings.

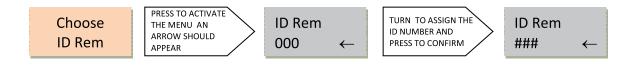


## 11.17 ID REMOTO (ID REM):

Remoto Is a control device which allows to upgrade your Astro with the latest software version or to load and download stored info. It Is available as an optional accessory as follows:

A20702072 REMOTO control unit

To change the initial ID press the rotary switch until an arrow appears, then turn to change to the desired ID number. Press to confirm your selection. It is possible to select an ID number from Oto 250. If ID number=0 remote control is not active. Factory setting is 000.





## 11.18 CALIBRATION (SET MIN):

It allows to calibrate the minimum level of the output.



#### 11.19 EXIT HIDDEN MENU (EXIT):

It allows to exit from hidden menus.

#### 12. CLAMP-ON MOBILE DIGITAL DIMMER, SUPPLIED

The Astro is supplied with a clamp-on mobile digital dimmer, which is packed separately in a plastic bag inside the box/flight case of the Astro. Please refer to the dimmer's separate Instruction manual provided in the packing to install and use it correctly.

#### 13. FOCUSING:

This fixture features a variable beam angle from 8° to 23°. The variable beam is modified by adjusting the front and rear zoom lenses in relation to each other. The front lens defines the beam spread, the rear lens defines the focus degree of 'softness' or 'hardness' of the beam edge or shutters.

#### 14. CLEANING AND MAINTENANCE:

To ensure maximum performance of the product, a regular maintenance service should be carried out. Please make sure the product is cold and disconnected from power supply when doing this. Use a clean cloth and non-abrasive glass cleaner like denatured alcohol.

#### **GENERAL MAINTENANCE:**

Clean all reflective parts such as reflector, mirrors, and lenses as necessary. Check the lenses and replace any visibly damaged component. Clean air ducts and fans in order to allow proper ventilation activity on the product, we recommend vacumming NOT blowing. Check internal and external wiring and replace any cable which shows wear and tear.

WARNING: NEVER USE AMMONIA, BLEACH, VINEGAR, OR WINDOW CLEANER, WHICH CAN HARM OUR COATED LENSES.



#### **CLEANING OF OPTICAL COMPONENTS:**

#### **LED house lenses:**

- Open the lens compartment door by removing the two M4 cross head screws on the top of the ledhouse tube and slide the top cover free
- Remove the condensor lenses assembled block by removing the two M5 cross head screws.
- Clean the lenses with a soft cloth and re-position

#### **Zoom lenses:**

• Slide the front zoom door positioned on the bottom of the lens tube and clean with a soft microfiber cloth.

#### 15. SPARE PARTS

All components are available as spare parts. We strongly recommend you always use original components as spare parts. Please call our technical team at **888-252-5912** should you need to order and/or replace any parts on your unit.

#### 16. WARRANTY

Our warranty covers all structural and manufacturer defects for three years from the date you purchased this product and 10 years on any LED array. In case of any issues, we strongly recommend you call us at **888-252-5912** or contact the local dealer who supplied the product to you. In any case, please report the serial number of the product when making a warranty claim.



#### 17. AVAILABLE ACCESSORIES

20102900 Underhung Mounting Yoke

20100206 Safety Guard

20107070 One Handed Iris/Douser/Controller

20100807 Gobo Holder, A/B size

20102200 Spare Spigot
3171212 Stage Pin Plug
7201285 Canto Caster Kit
80852039 Shutter Blades (4)
20102401 Followspot Tripod Stand
20102400 Leveling Leg Tripod Stand

20102311 HD Tripod with Bearing Head. 265 lbs capacity.

20102401-CW Followspot Catwalk Mounting Stand
20102401-PM Followspot Permanent Mounting Stand
3030277 Remote Ballast cable for Canto followspots

3113030 Color Changers Gels 20100106 Additional Color Frames

A20105106 Spare Boomerang Color Changer

80SP0068 Canto Reflector
20107180 Custom Flight Case
20107080 Canto Custom Road Case
PTW50507BK-B HD Tripod Casters (Set of 3)

20102100 HD Stand Adapter
CT1510 Pan Bearing Adapter
SGHT00001 TelRad Targeting Site

EXTW-0001 Extended warranties are available up to 2 additional years past the standard 3 year warranty period.

Canto USA reserves the right to modify this document without prior notice.



#### 18. SUMMARY OF CONTROLS AND FUNCTIONS

#	Function	Description	Available Options	Factoring Setting
1	Mode	MANUAL or DMX control	MANUAL (controlled from the rotary switch or clamp-on manual dimmer); DMX	DMX
2	Addr	Select the DMX starting address other remotely controlled functions are assigned in sequence to the 1st assigned DMX addres	From 001 to 512	001
3	8/16b	8 or 16 Bits dimming resolution	8 BITS on 1 channel; 16 BITS on 2 channels	8 BITS
4	DMXMem	Set the behaviour of the unit in case of DMX failure	ON = last dmx value; OFF=80% fade to 80% after 1,5 Sec ; OFF=0%	ON
5	Strobe	Activate the Strobe function	ENABLE ; DISABLE	DISABLE
6	SetStr		OPEN = ON; SPEED = ## (select value from 01 slowest to 10 fastest); CLOSED = OFF	OPEN
7	Curves	Select the dimming curve	SQUARE ; LINEAR	SQUARE
8	CutOff	Replicate the halogen lamp dimming behaviour at cut off	FAST = NOT ACTIVE ; SLOW = ACTIVE	SLOW
9	Smooth	Dimmer response	NORMAL = 150ms ; SLOW = 300ms FAST = Immediate response	NORMAL
10	Fan	Fan setting	AUTO = regulated by Tled; SILENT = slow speed, low noise; SILENT = constant speed	AUTO
11	BackL	LCD screen retro-illumination	ON ; AutoOFF = LCD light off after 1'30"	AutoOff
12	Tled	Visualize the LED temperature	Select the LED Temp in °C or F°	°C
13	SwVer	Visualize the software version		
14	Manu	Select the manual dimmer type	ENCODER = rotary switch POTENT = external slider	ENCODER



# 18. SUMMARY OF CONTROLS AND FUNCTIONS (CONTINUED)

SPECIAL FUNCTIONS: to activate these functions press the rotary switch at power on							
#	Function	Description	Available Options	Factoring Setting			
А	ProBasic	Set the functions available from the control menu	PRO= Enable acces to all functions; BASIC= Umit the access to; 1 Mode, 2 Addr, 12 Tied and 13 SwVer	PRO			
В	RESET	Factory RESET	Return to factory settings				
С	ID Rem	Set the ID number to activate Remoto control for upload and download firmware	From 000 (no remote control) to 250	000			
D	Set Min	Set the minimum output level of each color	From 000 to 9999				
Е	Exit	Exit from hidden menus					



#### 19. DMX CHARTS

## 19.1 DMX CHART 1 (16 BIT DIMMER AND STROBE DISABLED):

This DMX chart refers to the followspot set at the default parameters.

DMX Channel		Type of Control	Effect	Decimal	Percentage
11	Master Dimmer		Adjust luminous output intensity from 0 to 100%		0% - 100%
Projector: Astro White			Table name: DMX512 Functions chart 1 (Default)	Edition: 1	Date: 5/16/2018

## 19.2 DMX CHART 2 (16 BIT DIMMER ENABLE, STROBE DISABLED):

This DMX chart refers to the followspot set at 16 bits resolution (See chapter 11.3 of this user guide).

DMX Channel	⊩unction	Type of Control	Effect	Decimal		Percentage			
11	Master Dimmer	Proportional	Adjust luminous output intensity from 0 to 100%	0	- 25	55	0% -	100%	
2	Dimmer Fine		Fine dimmer control 16 bit	0	- 2!		0% -	100%	
Projector: Astro White			Table name: DMX512 Functions chart 2 (16 bits)	chart Edition: 1			Date: 5/16/2018		



## 19.3 DMX CHART 3 (STROBE FUNCTION ENABLE, 8 BIT DIMMER):

This DMX chart refers to the followspot set at strobe function active (See chapter 11.5 of this user guide).

DMX Channel	Function	Type of Control	Effect	Decimal		Percentage			
1	Master Dimmer	Proportional	Adjust luminous output intensity from 0 to 100%	o	-	255	0%	- 1	100%
2	Spare Channel	Step	No effect	0	-	255	0%	- 1	100%
		Step		0	H	20	0%	- 8	3%
		Step	Strobe speed 1 (minimum frequency)	21		40	9%	-  1	15%
	Strobe	Step	Strobe speed 2	41	-	60	16%	\  -	24%
		Step	Strobe speed 3	61	-	80	25%	1	31%
		Step	Strobe speed 4	81	-	100	32%	-	39%
2		Step	Strobe speed 5	101	-	120	40%	- 4	17%
3		Step	Strobe speed 6	121	-	140	48%	- 5	55%_
		Step	Strobe speed 7	141	-	160	56%	- 6	53%
		Step	Strobe speed 8	161	-	180	64%	- 7	71%
		Step	Strobe speed 9	181	H	200	72%	- 7	78%
		Step	Strobe speed 10 (maximum frequency)	201	-	220	79%	- 8	36%
		Step		221		255	87%	- 1	100%
Projector: Astro White Table name: DMX512 Functions charges (Strobe)			Table name: DMX512 Functions chart 3 (Strobe)	Editio	n:	1	Date: 5/16/2	01	8



## 19.4 DMX CHART 4 (16 BITS DIMMER AND STROBE ENABLED):

This DMX chart refers to the followspot set at 16 bits resolution and strobe function active (See chapter 11.3 and 11.5 of this user guide).

DMX Channel	Function	Type of Control	Effect	Decimal		Percentage			
1	Master Dimmer	Proportional	Adjust luminous output intensity from 0 to 100%	0	-	255	0%	-	100%
2	Dimmer Fine	Proportional	Fine dimmer control 16 bit	0	-	255	0%	-	100%
		Step	Open	0	L	20	0%	-	8%
		Step	Strobe speed 1 (minimum frequency)	21	-	40	9%	-	15%
	Strobe	Step	Strobe speed 2	41	-	60	16%	-	24%
		Step	Strobe speed 3	61	-	80	25%	-	31%
		Step	Strobe speed 4	81	-	100	32%	-	39%
2		Step	Strobe speed 5	101	-	120	40%		47%
5		Step	Strobe speed 6	121	-	140	48%		55%
		Step	Strobe speed 7	141	-	160	56%	-	63%
		Step	Strobe speed 8	161	-	180	64%	-	71%
		Step	Strobe speed 9	181	-	200	72%	-	78%
		Step	Strobe speed 10 (maximum frequency)	201	_	220	79%	-	86%
		Step	Closed	221	Ŀ	255	87%	-	100%
Projector: Astro White Table name: DMX512 Functions chart 4 (16 bits + Strobe)				n:	1	Date: 5/16/2	01	8	