

# *DERBY*X

User Manual



 **CHAUVET** **2**

## Edition Notes

The Derby X User Manual includes a description, safety precautions, installation, programming, operation, and maintenance instructions for the Derby X as of the release date of this edition.

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### Document Printing

For best results, print this document in color, on letter size paper (8.5 x 11 in), double-sided. If using A4 paper (210 x 297 mm), configure the printer to scale the content accordingly.

### Intended Audience

Any person installing, operating, and/or maintaining this product should completely read through the guide that shipped with the product, as well as this manual, before installing, operating, or maintaining this product.

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### Document Revision

Go to [www.chauvetdj.com](http://www.chauvetdj.com) for the latest version.

Revision	Date	Description
1	02/2024	Initial release.

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# 1. Before You Begin

## What Is Included

- Derby X
- Power cable
- Quick Reference Guide

## Unpacking Instructions

Carefully unpack the product immediately and check the container to make sure all the parts are in the package and are in good condition.

## Claims





If the box or the contents (the product and included accessories) appear damaged from shipping, or show signs of mishandling, notify the carrier immediately, not Chauvet. Failure to report damage to the carrier immediately may invalidate a claim. In addition, keep the box and contents for inspection.

For other issues, such as missing components or parts, damage not related to shipping, or concealed damage, file a claim with Chauvet within 7 days of delivery.

## Text Conventions

Convention	Meaning
<b>1–512</b>	A range of values
<b>50/60</b>	A set of values of which only one can be chosen
<b>Settings</b>	A menu option not to be modified
<b>&lt;ENTER&gt;</b>	A key to be pressed on the product's control panel
<b>ON</b>	A value to be entered or selected

## Symbols

Symbol	Meaning
	Electrical warning. Not following these instructions may cause electrical damage to the product, accessories, or the user.
	Critical installation, configuration, or operation information. Not following these instructions may make the product not work, cause damage to the product, or cause harm to the operator.
	Important installation or configuration information. The product may not function correctly if this information is not used.
	Useful information.

### Safety Notes

These Safety Notes include important information about installation, use, and maintenance of the Derby X.



- **ALWAYS:**

- ◆ Connect to a grounded circuit.
- ◆ Connect to operating voltages as specified on the product's spec sticker.
- ◆ Disconnect from power before replacing the fuse.
- ◆ Disconnect from its power source during periods of inactivity.
- ◆ Use a safety cable when suspending overhead.
- ◆ Heed all restrictions and warnings on the spec sticker.
- ◆ Mount in a location with at least 20 in (50 cm) of ventilation.
- ◆ Replace the fuse with the same type and rating.

- In the event of a serious operating problem, stop using immediately.

- **DO NOT:**

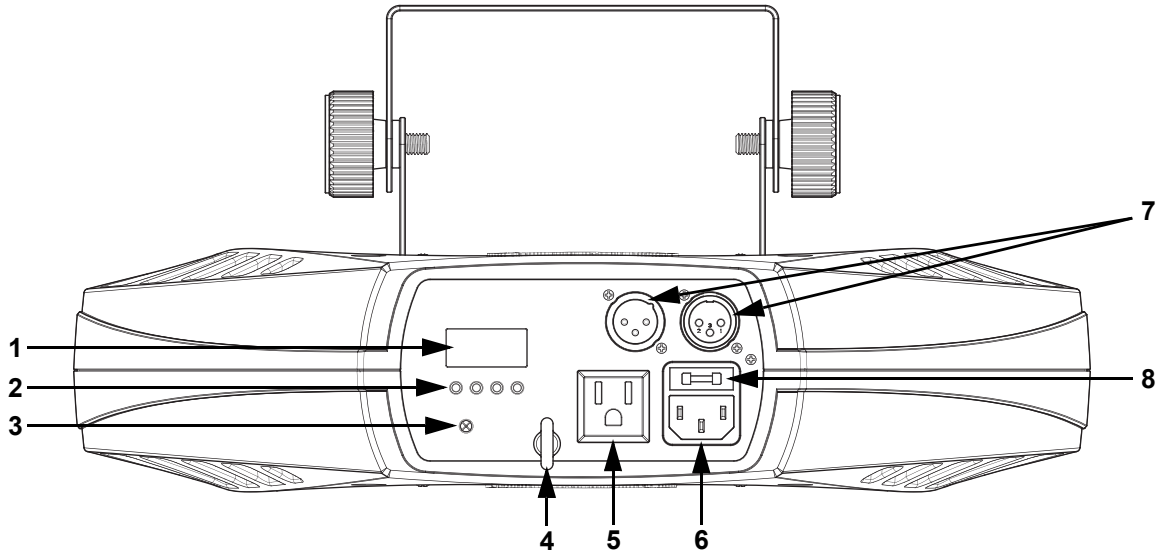
- ◆ Open this product or attempt any repairs. It contains no user-serviceable parts.
- ◆ Look at the light source when the product is on.
- ◆ Use if the power cable is crimped or damaged.
- ◆ Disconnect by pulling on the power cable.
- ◆ Allow flammable materials close to the product when it is operating.
- ◆ Touch the housing when it is on.
- ◆ Block any ventilation holes/slots in the housing.
- ◆ Connect to a dimmer or rheostat.
- ◆ Carry the product by its power cable.
- ◆ Operate in temperatures higher than 104°F (40°C).
- ◆ Expose to environments that exceed the Ingress Protection (IP) rating.
- ◆ Expose to rain or moisture.
- ◆ Use outdoors.
- ◆ Submerge.



**Keep this User Manual for future use. If the product is sold to someone else, be sure that they also receive this document.**

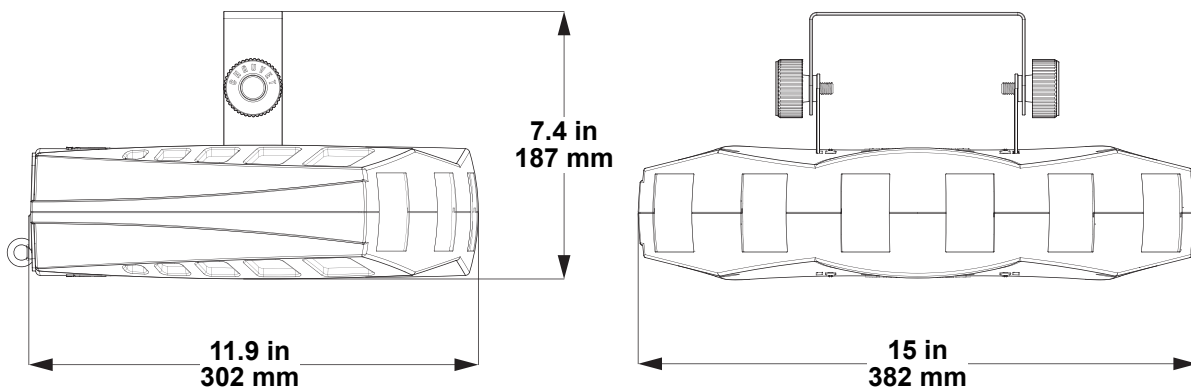
## 2. Introduction

### Product Overview



#	Name	#	Name
1	LED display	5	Power out
2	Menu buttons	6	Power in
3	IR sensor	7	DMX in/out
4	Safety loop	8	Fuse holder

### Product Dimensions



### 3. Setup

#### AC Power

The Derby X has an auto-ranging power supply and it can work with an input voltage range of 100 to 240 VAC, 50/60 Hz.

To determine the product's power requirements (circuit breaker, power outlet, and wiring), use the current value listed on the label affixed to the product's back panel, or refer to the product's specifications chart. The listed current rating indicates the product's average current draw under normal conditions.



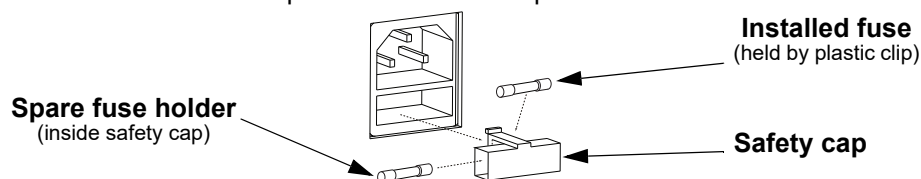
- **Always connect the product to a protected circuit (a circuit breaker or fuse). Make sure the product has an appropriate electrical ground to avoid the risk of electrocution or fire.**
- **To eliminate unnecessary wear and improve its lifespan, during periods of non-use completely disconnect the product from power via breaker or by unplugging it.**



**Never connect the product to a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel serves only as a 0 to 100% switch.**

#### Fuse Replacement

1. Disconnect the product from power.
2. Wedge the tip of a flat-head screwdriver into the slot of the fuse holder.
3. Pry the fuse holder out of the housing.
4. Remove the blown fuse from the holder and replace with a fuse of the exact same type and rating.
5. Insert the fuse holder back in place and reconnect power.



**Disconnect the product from the power outlet before replacing the fuse.**

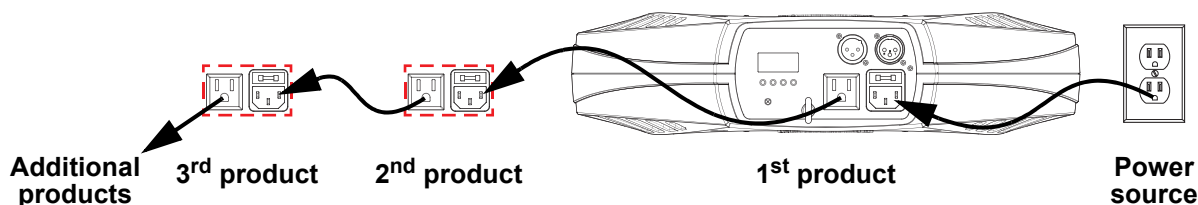


**Always replace a blown fuse with one of the same type and rating.**

#### Power Linking

This product provides power linking via the outlet located in the back of the product. See the diagram below for further explanation.

##### Power Linking Diagram



**It is possible to link up to 62 Derby X products on 120 VAC or up to 94 products on 230 VAC.**



**The power linking diagram shown above corresponds to the North American version of the product ONLY! If using the product in other markets, consult with the local Chauvet distributor as power linking connectors and requirements may differ by country or region.**

### Mounting

Before mounting the product, read and follow the safety recommendations indicated in the [Safety Notes](#).

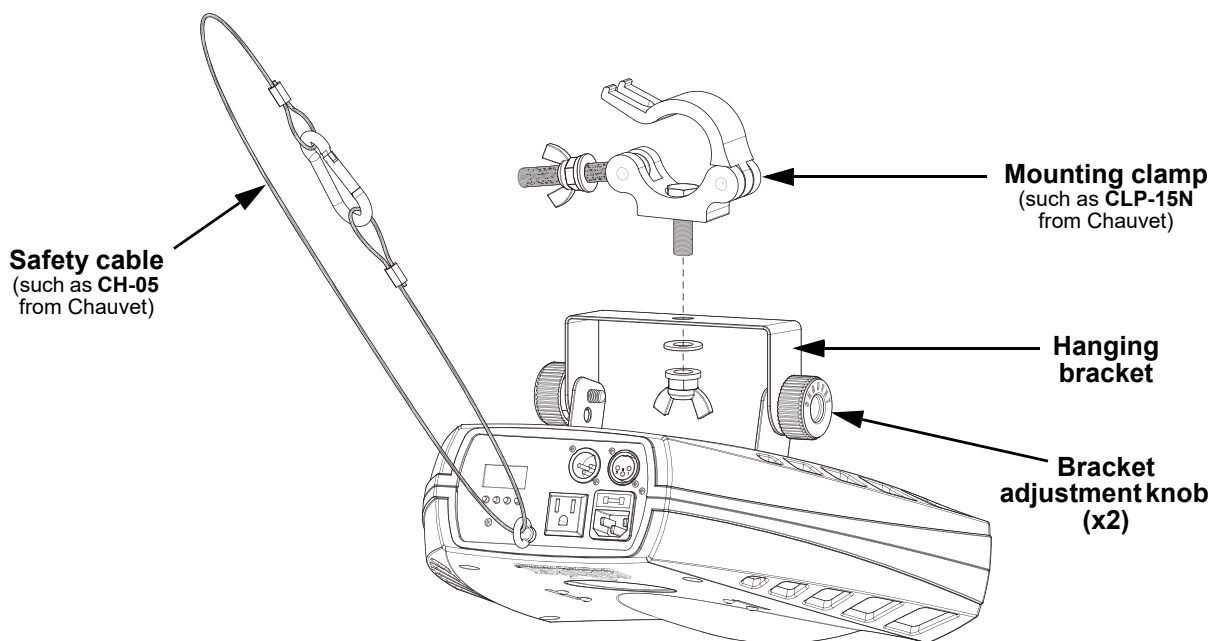
### Orientation

The Derby X may be mounted in any position; however, make sure adequate ventilation is provided around the product.

### Rigging

- Before deciding on a location for the product, always make sure there is easy access to the product for maintenance and programming.
- Make sure that the structure and attachment points can support the weight before hanging the product (see the [Technical Specifications](#)).
- When mounting the product overhead, always use a safety cable. Mount the product securely to a rigging point, such as an elevated platform or a truss.
- When rigging the product onto a truss, use a mounting clamp of appropriate weight capacity. The bracket has a 13-mm hole, which is appropriate for this purpose.
- The bracket adjustment knobs allow for directional adjustment when aiming the product to the desired angle. Only loosen or tighten the bracket knobs manually. Using tools could damage the knobs.
- When power linking multiple products, mount the products close enough for power linking cables to reach.
- When mounting the product on the floor, make sure that the product and cables are away from people and vehicles.

### Mounting Diagram





## 4. Operation

### Control Panel Operation

To access the control panel functions, use the four buttons located underneath the display. Please refer to the [Product Overview](#) to see the button locations on the control panel.

Button	Function
<MENU>	Press to find an operation mode or to back out of the current menu option
<UP>	Press to scroll up the list of options or to find a higher value
<DOWN>	Press to scroll down the list of options or to find a lower value
<ENTER>	Press to activate a menu option or a selected value

### Menu Map

Refer to the Derby X product page on [www.chauvetdj.com](http://www.chauvetdj.com) for the latest menu map and software.

Mode	Programming Levels		Description
DMX Mode	8Ch	d001–512	8-channel DMX mode
Static Colors	C---	C001–007	Static colors
Programs	P---	P001–017	Automatic programs
Auto Speed	S---	S001–100	Program speed for P001–017
Sound Mode	Snd	S 1–16	Sound-active programs
Sensitivity	SEnS	u001–100	Sets sound sensitivity
Infrared Mode	SEt	on	Turns infrared on or off
		oFF	

### DMX Configuration

The Derby X works with a DMX controller. Information about DMX is in the Chauvet DMX Primer, which is available from the Chauvet website [chauvetlighting.com/downloads/DMX\\_Primer\\_rev05\\_WO.pdf](http://chauvetlighting.com/downloads/DMX_Primer_rev05_WO.pdf).

### Personality and Starting Address

The Derby X uses 8 DMX channels in DMX mode, which defines the highest recommended address to 505.

When selecting a starting DMX address, always consider the number of DMX channels the DMX mode uses. If the starting address is set too high, access to some channels could be restricted.

For information about the DMX protocol, download the DMX Primer from [www.chauvetdj.com](http://www.chauvetdj.com).

To select the personality and starting address, do the following:

1. Press <MENU> repeatedly until **8Ch** shows on the display.
2. Press <ENTER>.
3. Use <UP> or <DOWN> to select the starting address, from **d001–512**.
4. Press <ENTER>.

## DMX Channel Assignments and Values

### DMX Charts

Channel	Function	Value	Percent/Setting
1–6	LED Cluster 1–6	000 ⇔ 010	No function
		011 ⇔ 045	Red
		046 ⇔ 080	Green
		081 ⇔ 115	Blue
		116 ⇔ 150	Red and green
		151 ⇔ 185	Red and blue
		186 ⇔ 220	Green and blue
		221 ⇔ 255	Red, green, and blue
7	Strobe	000 ⇔ 010	No function
		011 ⇔ 255	Strobe, slow to fast
8	Automatic Programs/Sound-Active Mode	000 ⇔ 010	No function
		011 ⇔ 024	Automatic program 1
		025 ⇔ 038	Automatic program 2
		039 ⇔ 052	Automatic program 3
		053 ⇔ 066	Automatic program 4
		067 ⇔ 080	Automatic program 5
		081 ⇔ 094	Automatic program 6
		095 ⇔ 108	Automatic program 7
		109 ⇔ 122	Automatic program 8
		123 ⇔ 136	Automatic program 9
		137 ⇔ 150	Automatic program 10
		151 ⇔ 164	Automatic program 11
		165 ⇔ 178	Automatic program 12
		179 ⇔ 192	Automatic program 13
		193 ⇔ 206	Automatic program 14
		207 ⇔ 220	Automatic program 15
		221 ⇔ 250	Automatic program 16
		251 ⇔ 255	Sound-active mode

### Standalone Configuration

Set the product in one of the standalone modes to operate without a DMX controller.



**Never connect a product that is operating in any standalone mode to a DMX string connected to a DMX controller. Products in standalone mode may transmit DMX signals that could interfere with the DMX signals from the controller.**

#### Static Color

To run the Derby X with a static color, follow the instructions below.

1. Press **<MENU>** repeatedly until **C---** shows on the display.
2. Press **<ENTER>**.
3. Use **<UP>** or **<DOWN>** to select the desired color from **C001–007**.
4. Press **<ENTER>**.

#### Automatic Program

To run the Derby X with an automatic program, follow the instructions below.

1. Press **<MENU>** repeatedly until **P---** shows on the display.
2. Press **<ENTER>**.
3. Use **<UP>** or **<DOWN>** to select the desired program from **P001–017**.
4. Press **<ENTER>**.

#### Program Speed

To set the speed of the automatic program, do the following:

1. Press **<MENU>** repeatedly until **S---** shows on the display.
2. Press **<ENTER>**.
3. Use **<UP>** or **<DOWN>** to increase or decrease the program speed from **S001–100**.
4. Press **<ENTER>**.

#### Sound-Active Mode

To run the Derby X with a sound-active program, follow the instructions below.

1. Press **<MENU>** repeatedly until **Snd** shows on the display.
2. Press **<ENTER>**.
3. Use **<UP>** or **<DOWN>** to select the desired program from **S 1–16**.
4. Press **<ENTER>**.

#### Sound Sensitivity

To set the sound sensitivity of the product, do the following:

1. Press **<MENU>** repeatedly until **SEnS** shows on the display.
2. Press **<ENTER>**.
3. Use **<UP>** or **<DOWN>** to increase or decrease the sound sensitivity, from **u001–100**.
4. Press **<ENTER>**.



**The product will only respond to low frequencies of music (bass and drums).**

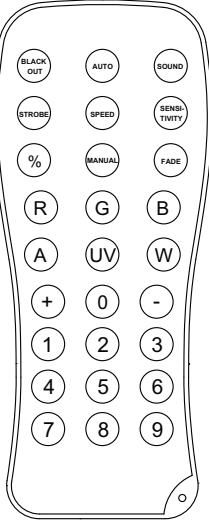
## IRC-6 Infrared Remote Control

The Derby X is compatible with the IRC-6 infrared remote control from Chauvet.

To enable or disable IRC-6 functionality, do the following:

1. Press **<MENU>** repeatedly until **SEt** shows on the display.
2. Press **<ENTER>**.
3. Press **<ENTER>** to select from **on** (enable), or **oFF** (disable).
4. Press **<ENTER>**.

Consult the table below to operate the Derby X with the IRC-6.

IRC-6	Button	Function
	<b>&lt;AUTO&gt;</b>	Press to activate automatic mode, then use <b>&lt;+&gt;</b> or <b>&lt;-&gt;</b> to select a program
	<b>&lt;SPEED&gt;</b>	Press then use <b>&lt;+&gt;</b> or <b>&lt;-&gt;</b> to increase or decrease speed
	<b>&lt;SOUND&gt;</b>	Press to activate sound-active mode, then use <b>&lt;+&gt;</b> or <b>&lt;-&gt;</b> to select a program
	<b>&lt;STROBE&gt;</b>	Press to toggle strobe, then use <b>&lt;+&gt;</b> or <b>&lt;-&gt;</b> to increase or decrease strobe speed
	<b>&lt;FADE&gt;</b>	Press to activate fade mode
	<b>&lt;MANUAL&gt;</b>	Press to activate manual color mode
	<b>&lt;R&gt;</b>	Press to toggle red in manual mode
	<b>&lt;G&gt;</b>	Press to toggle green in manual mode
	<b>&lt;B&gt;</b>	Press to toggle blue in manual mode
	<b>&lt;+&gt;</b>	Press to increase speed or to scroll up the list of programs
	<b>&lt;-&gt;</b>	Press to decrease speed or to scroll down the list of programs
	<b>&lt;0&gt;-&lt;9&gt;</b>	Press to select a preset static color
	<b>&lt;BLACK OUT&gt;</b>	Press to turn off all the lights until the button is pressed again. NOTE: The IRC-6 will not respond to any inputs when Black Out is activated. If the product does not respond when a button is pressed, try pressing <b>&lt;BLACK OUT&gt;</b> . Black Out may have been activated.



- Any setting on the IRC-6 will be saved until the system is rebooted. The system will revert to Auto Mode after reboot.
- The buttons on the IRC-6 not listed above are reserved for future use.

### Master/Slave Mode

The Master/Slave mode allows a single Derby X product (the “master”) to control the actions of one or more Derby X products (the “slaves”) without the need of a DMX controller. The master product will be set to operate in either standalone mode or with the IRC-6, while the slave products will be set to operate in slave mode. Once set and connected, the slave products will operate in unison with the master product. Configure the products as indicated below.

#### Slave products:

1. Press **<MENU>** repeatedly until **8Ch** shows on the display.
2. Press **<ENTER>**.
3. Use **<UP>** or **<DOWN>** to set the starting address to **d001**.
4. Press **<ENTER>**.
5. Connect the DMX input of the first slave product to the DMX output of the master product.
6. Connect the DMX input of the subsequent slave products to the DMX output of the previous slave product.
7. Finish setting and connecting all the slave products.

#### Master product:

1. Set the master product to operate in standalone mode or with the IRC-6.
2. Make the master product the first product in the DMX daisy chain.



- **Configure all the slave products before connecting the master to the daisy chain.**
- **Never connect a DMX controller to a DMX string configured for Master/Slave operation because the controller may interfere with the signals from the master.**
- **Do not connect more than 31 slaves to the master.**

## 5. Maintenance

### Product Maintenance

Dust build-up reduces light output performance and can cause overheating. This can lead to reduction of the light source's life and/or mechanical wear. To maintain optimum performance and minimize wear, clean all lighting products at least twice a month. However, be aware that usage and environmental conditions could be contributing factors to increase the cleaning frequency.

To clean the product, follow the instructions below:

1. Unplug the product from power.
2. Wait until the product is at room temperature.
3. Use a vacuum (or dry compressed air) and a soft brush to remove dust collected on the external surface/vents.
4. Clean all transparent surfaces with a mild soap solution, ammonia-free glass cleaner, or isopropyl alcohol.
5. Apply the solution directly to a soft, lint free cotton cloth or a lens cleaning tissue.
6. Softly drag any dirt or grime to the outside of the transparent surface.
7. Gently polish the transparent surfaces until they are free of haze and lint.



**Always dry the transparent surfaces carefully after cleaning them.**

## 6. Technical Specifications

### Dimensions and Weight

Length	Width	Height	Weight
11.9 in (302 mm)	15 in (382 mm)	7.4 in (187 mm)	4 lb (2 kg)

**Note:** Dimensions in inches are rounded.

### Power

Power Supply Type	Range	Voltage Selection
Switching (internal)	100 to 240 VAC, 50/60 Hz	Auto-ranging
Parameter	120 V, 60 Hz	230 V, 50 Hz
Consumption	10 W	10 W
Operating Current	2 A	1 A
Power linking current (products)	8 A (62 products)	8 (94 products)
Fuse	F 1 A, 250 V	F 1 A, 250 V
Power I/O	U.S./Worldwide	UK/Europe
Power input connector	IEC	IEC
Power output connector	Edison	IEC
Power cable plug	Edison (U.S.)	Local Plug

### Light Source

Type	Color	Quantity	Power	Current	Lifespan
LED	Red	30	1 W	96 mA	50,000 hours
LED	Green	30	1 W	96 mA	50,000 hours
LED	Blue	30	1 W	96 mA	50,000 hours

### Photometrics

Strobe Rate	Coverage Angle
0 to 26 Hz	96°

### Thermal

Maximum External Temperature	Cooling System
104 °F (40 °C)	Convection

### DMX

I/O Connector	Channel Range
3-pin XLR	8

### Ordering

Product Name	Item Code	UPC Number
Derby X	07051546	781462218942



## Contact Us

General Information	Technical Support
<b>Chauvet World Headquarters</b>	
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## Warranty & Returns

For warranty terms and conditions and return information, please visit our website.

For customers in the United States and Mexico: [www.chauvetlighting.com/warranty-registration](http://www.chauvetlighting.com/warranty-registration).

For customers in the United Kingdom, Republic of Ireland, Belgium, the Netherlands, Luxembourg, France, and Germany: [www.chauvetlighting.eu/warranty-registration](http://www.chauvetlighting.eu/warranty-registration).