

Power output
Maximum output:
2KW (i.e. 24 daisy
chained Comet units)
Connector required:
PowerCon® NAC3FCB.

Main heatsink
Allow free airflow
around the cooling
fans.

High impact casing
Sealed to IP64 against moisture
and dust ingress. Use the sup-
plied cable gaiter to protect
cables and connectors to the
same level.

Safety rings
Use a safety
wire or safety
chain through
one or both
rings, rated to
a minimum of
17.5Kg.

**Control
panel**
Two line backlit
display with five
push buttons.

DMX output
Connector
required:
XLR 5-pin male.

Fuse
1A slow blow
(T1AL250V).

Gaiter lip
Attach supplied
cable gaiter
here.

DMX input
Connector required:
XLR 5-pin female.

Power input
90 to 250VAC, 49 to 63Hz,
(autoranging), 81W maximum
Connector required:
PowerCon® NAC3FCA.

Safety

- When positioned off ground, use an appropriate wire or chain through one or both safety rings, rated to a minimum of 17.5Kg.
- Ensure that the cable gaiter is correctly applied before subjecting the Comet to damp conditions.
- The strobe abilities of the Comet allow you to create strobe effects at frequencies associated with the inducement of seizures in people suffering from photosensitive epilepsy. You are recommended to minimise the use of frequencies between 5 to 43 Hz and especially avoid the range 15 to 20 Hz.

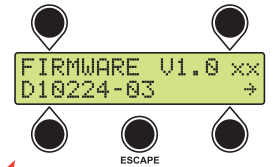
User menu

The Comet control panel uses an intuitive menu system to allow quick and easy configuration of various functions. The control panel has five push buttons. The functions of the four corner buttons change according to the adjacent prompts shown on the display. The diagram below provides a basic overview of the main options available. Please see pages 2 to 5 for details.



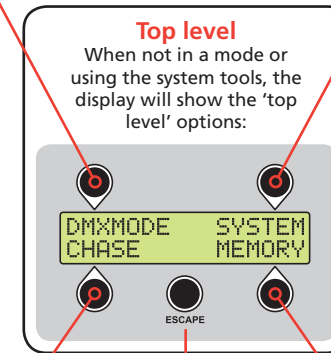
DMX mode (page 2)
Places the Comet into DMX receive mode and also provides the following options:

- Change the DMX address,
- Choose 3CH or 5CH control,
- Choose 'Standard LED' or 'Filament Emulation' display modes,
- Copy a DMX colour input mix to a memory location.



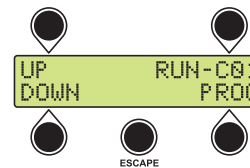
System tools (page 3)
Provides various diagnostic tools:

- Indicate the firmware revision,
- Display current DMX input values,
- Show the DMX refresh rate,
- Indicate the current internal fixture temperature.



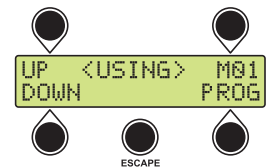
Top level
When not in a mode or using the system tools, the display will show the 'top level' options:

Escape
Press the ESCAPE button at any time, within any menu level, to return to the previous level.



Chase mode (page 5)
Places the Comet into standalone chase mode. From here you can:

- Select and run stored chase sequences,
- Create new chase sequences incorporating colours, strobe rates and intensity settings stored within the Memory section.



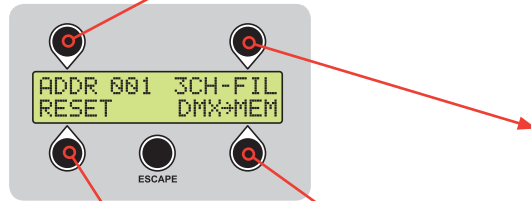
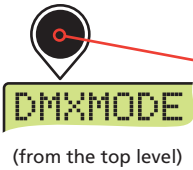
Memory mode (page 4)
Places the Comet into standalone memory mode. From here you can:

- Select and display stored memory settings,
- Create new memory settings by mixing RGB values, strobe rates and intensity settings. Memory settings can then be used to build new chase sequences.

DMX mode

From the top level, select **DMXMODE** to allow the Comet to receive and interpret an incoming DMX control signal. Within the **DMXMODE** option, you can also:

- Change the Comet's DMX address,
- Choose between 3 channel (RGB) and 5 channel (RGB + Strobe speed + Intensity) control modes,
- Choose between 'Standard LED' (LED) and 'Filament Emulation®' (FIL) modes,
- Capture the current DMX input values and save the resulting colour/strobe/intensity mix to a memory location.
- Reset the DMX address to 001, channel mode 3CH and display mode LED.



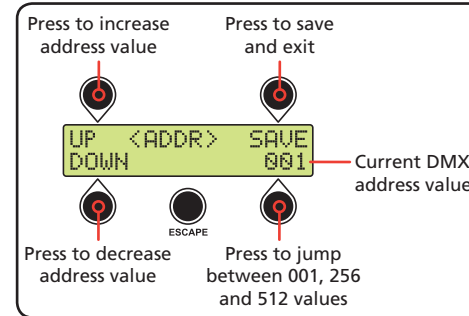
Strobe rates

The Comet can produce strobe rates ranging from 1.2Hz to 43Hz. The strobe rates are controlled by the strobe input (fourth channel when in 5CH mode) and are distributed across the 255 input values as follows:

DMX value	Strobe rate
000	On full
001	1.2 Hz
...	...
127	7.7 Hz
...	...
157	14.3 Hz
...	...
175	23 Hz
...	...
255	43 Hz

Please read the strobe warning provided on page 1.

Select the DMX address

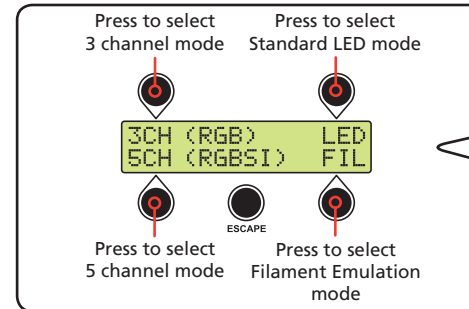


IMPORTANT

To continue receiving DMX control signals, leave the menu within the DMXMODE screen when all settings have been made. The Comet will not respond to DMX inputs if it is returned to the top level.

If power is interrupted, the Comet will reinstate the same menu screen and continue operation.

Select the DMX channel and display modes

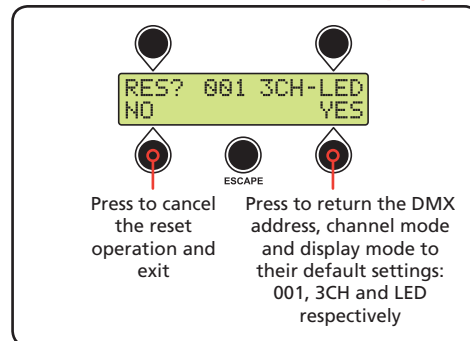


What is Filament Emulation?

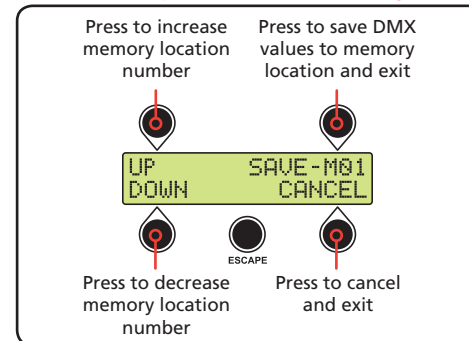
Filament Emulation® mode provides ultra smooth responses to changing DMX inputs, so that the Comet behaves in a similar manner to a tungsten lit fixture. When Filament Emulation is selected, the Comet intelligently averages out the changing DMX values to produce the smoothest possible fades.

Note: As a result of the averaging process employed for Filament Emulation, the Comet will respond to changing DMX input values at a slower rate than usual. If you require rapid responses to changing DMX values, use 'Standard LED' mode.

Reset DMX address, channel & display modes



Save DMX input values to memory



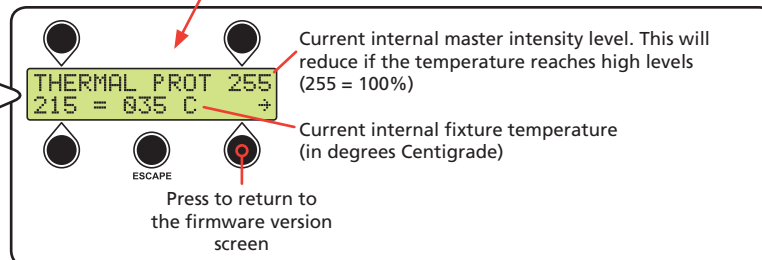
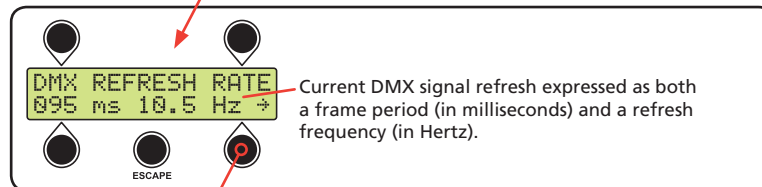
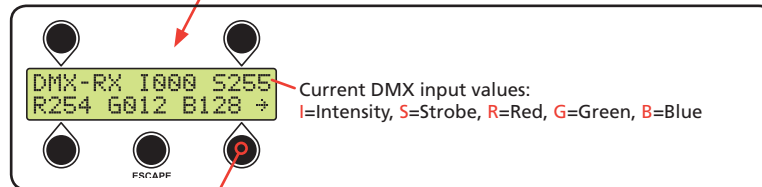
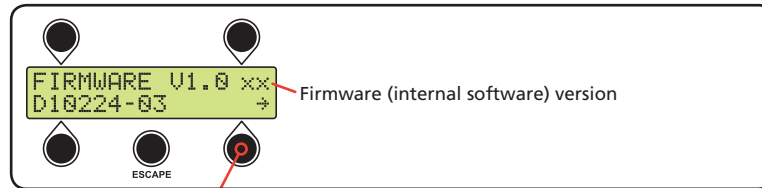
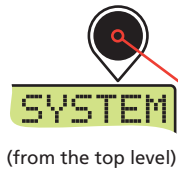
Mixing modes

The 3CH and 5CH channel modes can be mixed in any combination with the LED and FIL display modes. When you select any single mode option, the change will be saved and you will be returned to the DMXMODE screen. To choose an accompanying mode, press the top right button to re-enter the screen and select the necessary option.

System tools

From the top level, select **SYSTEM** to access various useful information and diagnostic tools:

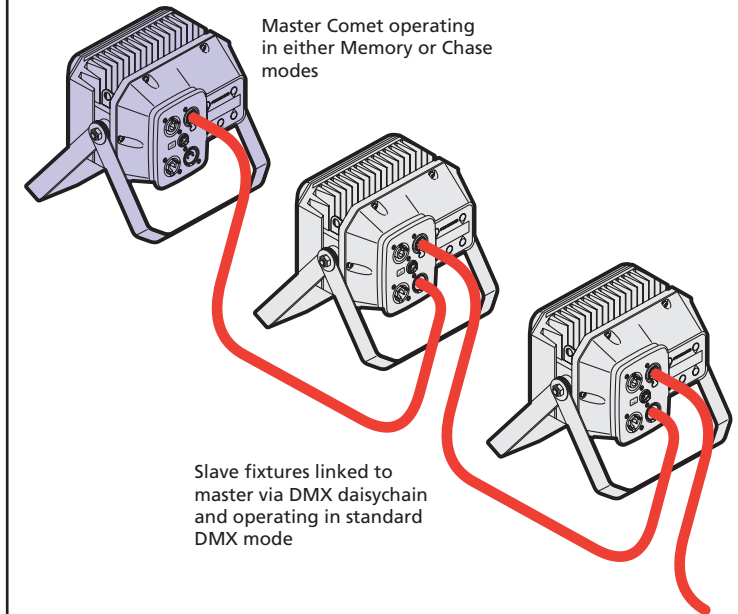
- Indicate the Comet firmware version,
- Display current DMX input values,
- Show the DMX signal refresh rate,
- Indicate the current internal fixture temperature.



Internal temperature
In order to protect the LED emitters and internal circuitry, the Comet continually checks its own temperature during operation. If the internal temperature rises above 80°C, it will automatically scale back the master intensity level in subtle stages until the temperature returns to an acceptable level. The number shown in the top right corner of the thermal check screen indicates the current internal master intensity level (255 = 100%).

Controlling other fixtures

The Comet provides the ability to control any number of other fixtures (Comets or otherwise) without the need for a separate control unit or lighting desk. When the Comet is running in its Memory mode (see page 4) or its Chase mode (see page 5), in addition to displaying the colours and strobe effects itself, it also sends control information to the DMX ports. Any fixtures connected to the DMX ports can then use the DMX values to display the same output as the Comet.



Master Comet: Use either the Memory or Chase modes in the usual manner.

Slave fixtures: Use in standard DMX mode and set the base address to 001. The channels output by the master Comet to the slave fixtures are as follows:

DMX channel	Signal	Range
001	Red	0 - 255
002	Green	0 - 255
003	Blue	0 - 255
004	Strobe	0 - 255
005	Master intensity	0 - 255

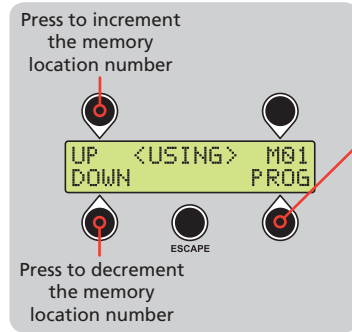
Memory mode

From the top level, select **MEMORY** to place the Comet into standalone memory mode. Each memory can contain a single colour mix (using separate red, green and blue values, each ranging from 0 to 255), an optional strobe setting and a master intensity level for the colour mix. Memory settings can then be used individually to display a static colour (with or without strobe effect), or combined with any number of other memory settings to build new chase sequences, using the Chase mode.

Within the memory mode menu you can:

- Select and display stored memory settings (up to 100 memory locations),
- Create new memory settings by mixing RGB values, strobe rates and intensity settings.

MEMORY (from the top level)

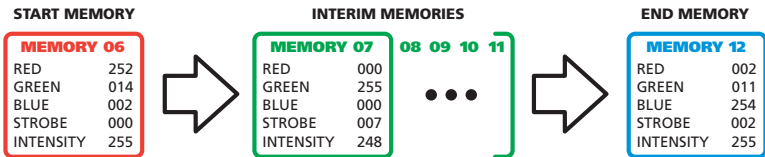


Controlling other fixtures

When running in memory mode, the Comet sends its control information to its DMX ports. This means that you can control any number of other fixtures using the Comet as the master. Please see page 3 for details.

When creating memory locations for use in chase sequences

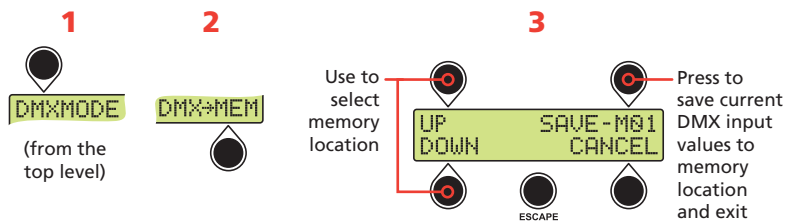
Keep in mind that each chase sequence needs to access memory locations in rising numerical order, beginning and ending at specified locations:



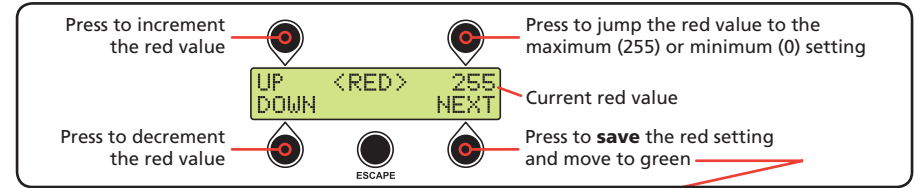
Therefore, if you require a particular sequence of colours/strobe effects, be sure to use consecutive memory locations for each element of the chase.

To create memory locations from DMX input values

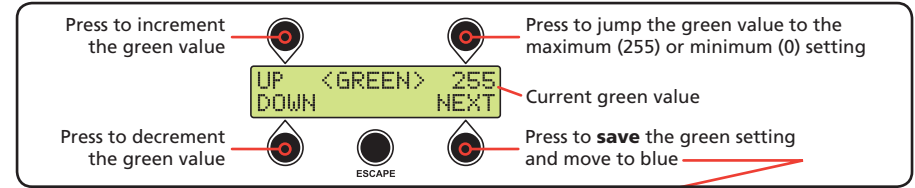
Any current DMX control input (RGB colour mix, strobe and intensity values) can be captured by the Comet and stored as a memory:



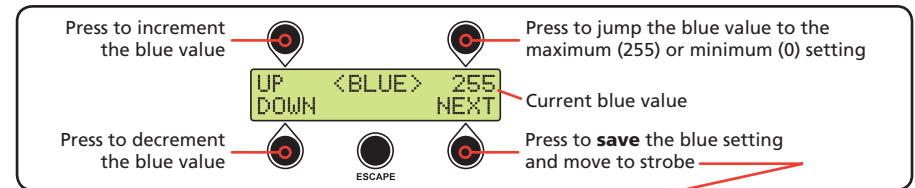
Red



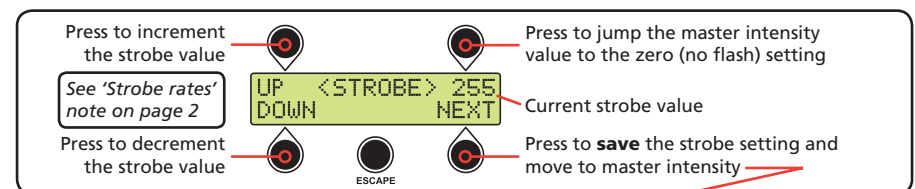
Green



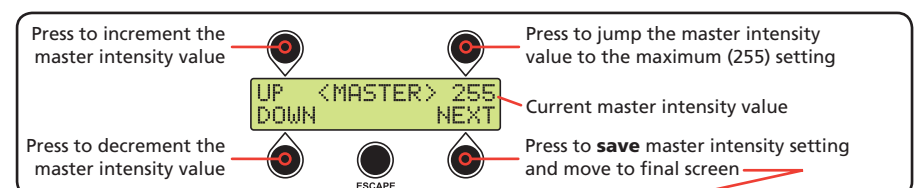
Blue



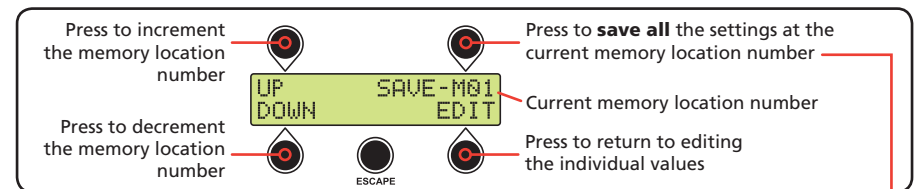
Strobe



Master intensity



Save all

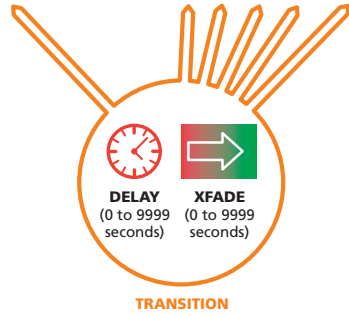


Chase mode

From the top level, select **CHASE** to place the Comet into standalone chase mode. Each chase sequence is built up by displaying a series of chosen memory locations and controlling the transitions between them. Each memory location provides an RGB colour mix, an optional strobe effect and a master intensity setting.

The transition provides a delay (the time required to display the current memory) as well as a crossfade (the speed at which the current memory should fade to the next).

START MEMORY		INTERIM MEMORIES						END MEMORY	
MEMORY 01		MEMORY 02	03	04	05	06	MEMORY 07		
RED	252	RED	000				RED	002	
GREEN	014	GREEN	255				GREEN	011	
BLUE	002	BLUE	000				BLUE	254	
STROBE	000	STROBE	007				STROBE	002	
INTENSITY	255	INTENSITY	248				INTENSITY	255	

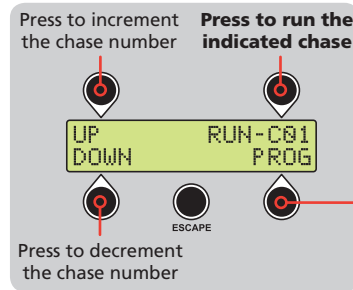


Note: Memory locations are accessed in rising numerical order so be sure to order your memory locations accordingly. Any memory location can be used in any number of different chase sequences.

From the Chase menu you can:

- Select and run stored chase sequences (up to 10 chase sequences can be stored at any time),
- Create new chase sequences incorporating colours, strobe rates and intensity settings stored within the Memory section.

CHASE (from the top level)



Controlling other fixtures

When running in chase mode, the Comet sends its control information to its DMX ports. This means that you can control any number of other fixtures using the Comet as the master. Please see page 3 for details.

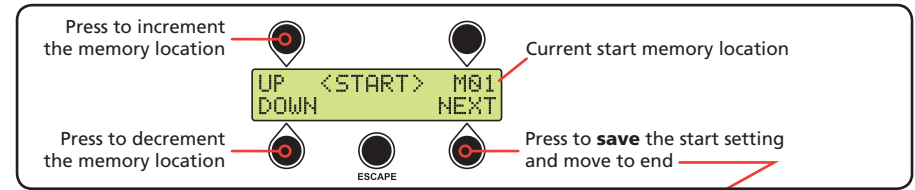
Display indications when running chase sequences

As an aid to fine tuning your chase sequences, while running, the Comet display continually indicates the current memory number of the chase as well as countdowns for the delay and crossfade transitions as they occur.

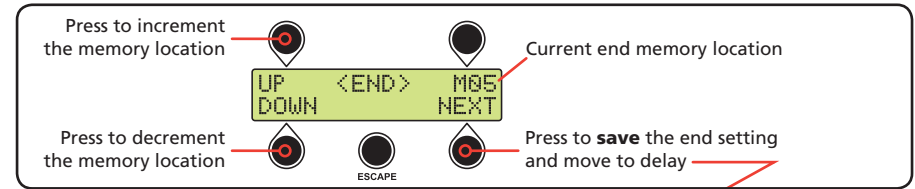
To stop a chase

When the chase is running, press any button to stop and return to the main chase menu screen.

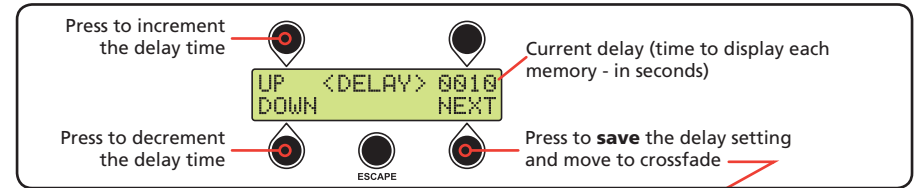
Start location



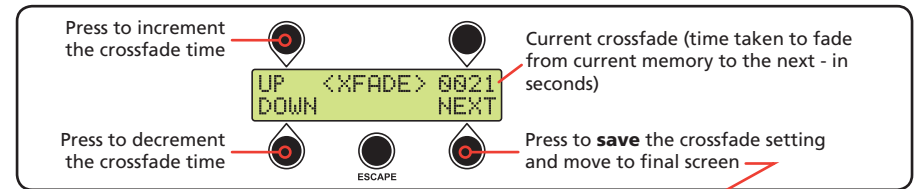
End location



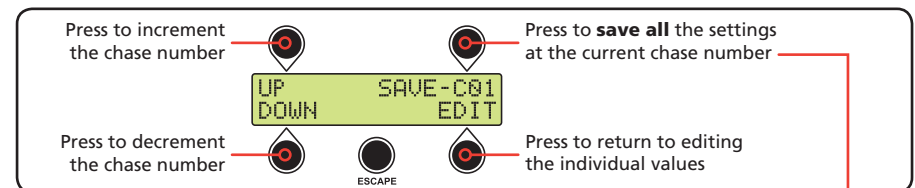
Delay



Crossfade



Save all



Troubleshooting

No light output or response to button presses

- Check fuse and replace if necessary. If the power lead has a fuse in its plug, check that fuse also.
- Check that the PowerCon input connector has been fully inserted and rotated until it clicks.

No response to DMX input

- Ensure that the Comet is set within the DMXMODE menu (DMX inputs are ignored at the top level or within any other branch of the menu).
- Check which channel mode the Comet is using. If the 5CH mode is selected, then a master intensity value is required on the fifth channel. See page 2 for details.

Unexpected or erratic operation in DMX mode

- Check that only one device (i.e. the desk) in the link is set to operate as a DMX master.

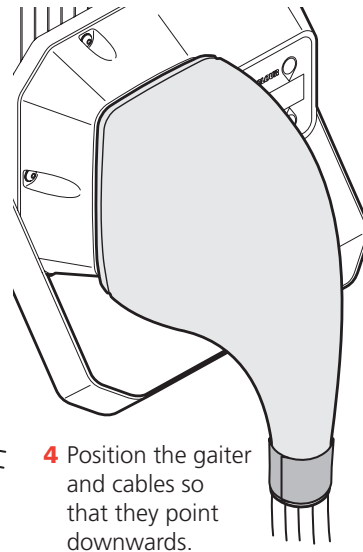
Fitting the Weather Seal® cable gaiter

A UV stabilised fabric cable gaiter is provided with every Comet. When fitted correctly it allows you to shield the cables, connectors and the Comet from moisture and dust ingress to an IP64 rating.

- 1 Feed the cables through the gaiter and connect them to the Comet.

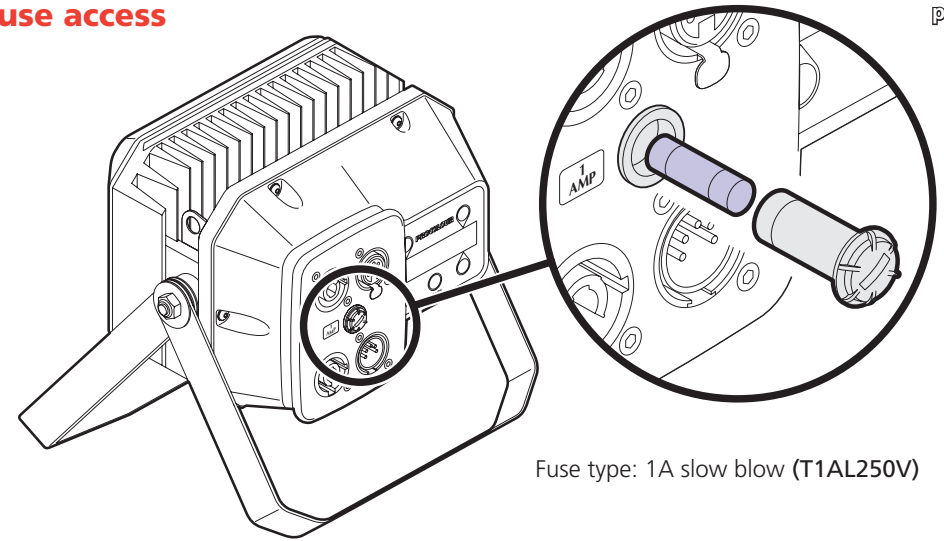
- 2 Fit the large opening of the gaiter fully onto the Comet's gaiter lip.

- 3 Ensure that the Velcro strap forms a tight seal around the cables.



- 4 Position the gaiter and cables so that they point downwards.

Fuse access



Fuse type: 1A slow blow (T1AL250V)

Specifications

- **Dimensions:** 200mm (w) x 150mm (h) x 155mm (d)
- **Weight:** 3.5Kg
- **Attachment:** Industry standard double yoke with tension handle. Plus dual, independent safety-chain rings on main chassis
- **Enclosure rating with cable gaiter fitted:** IP64
- **Enclosure materials:** CNC machined aluminium, UV stabilised high impact plastic
- **WEEE regulations:** Return to manufacturer option
- **CE regulations:** 73/23/EEC Low Voltage Directive
- **Power input:** 90 to 250VAC, 49 to 63Hz
- **Standby power:** 5W
- **Maximum power:** 81W
- **Power sockets:** Neutrik® PowerCon® NAC3FCA (input) and NAC3FCB (output)
- **DMX sockets:** Neutrik® XLR 5pin male (input) and 5pin female (output)
- **Fuse type:** 1A slow blow
- **Emitters:** Red: 12 Luxeon I (1W).
Blue and green: 12 + 12 Luxeon III (3W)
- **Function control:** Intuitive menu system with two line matrix display and five push buttons
- **DMX addressing:** 1 to 512 selectable via menu system
- **Broadcast suitability:** Proven to be flicker free at both 50 and 60Hz power input frequencies



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