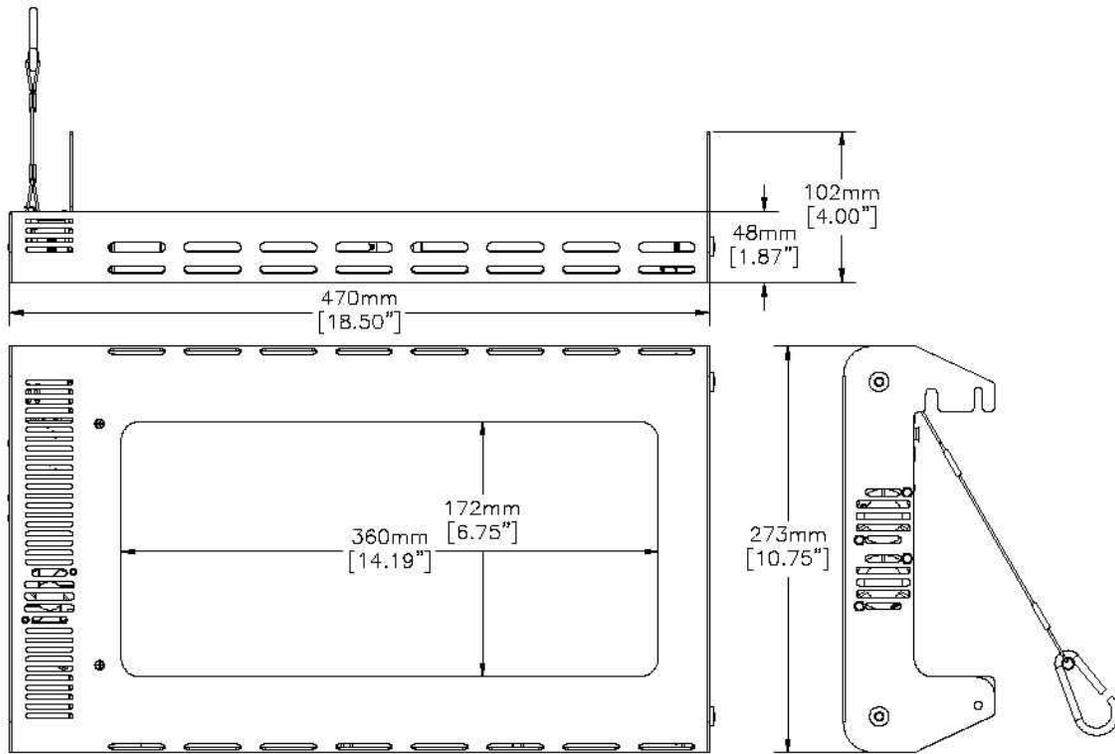


# Atomic Colors

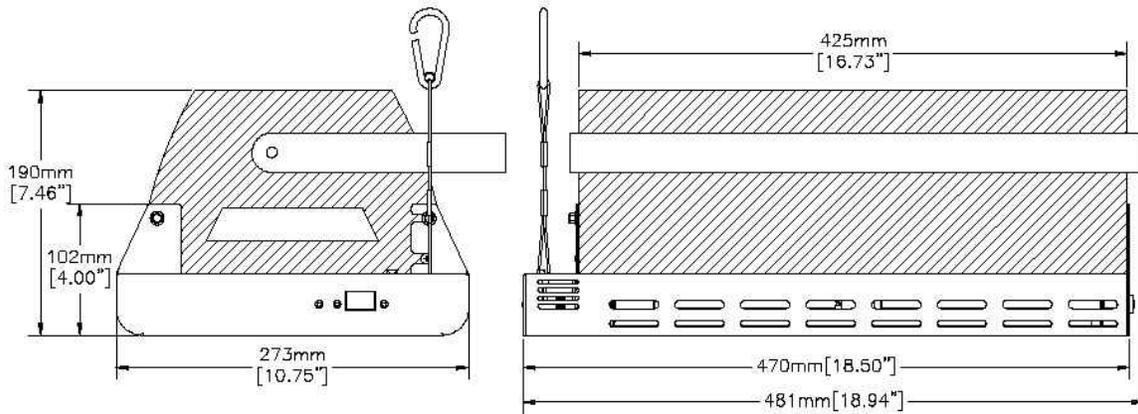
user manual



**Martin**



Atomic Colors Unit



Atomic 3000 DMX and Atomic Colors Unit combined.

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## SAFETY INFORMATION

**Before using this unit please read this manual completely, and refer to the user manual for Atomic 3000 DMX strobe.**

*Warning: This product is for professional use only!  
It is not designed for household use.*

This product is designed exclusively for use with the Martin Atomic 3000 DMX unit. Use the device only as intended.

The Atomic 3000 DMX presents risks of lethal or severe injury due to fire and heat, electric shock, ultraviolet radiation, and falls. Flashing light is also known to trigger epileptic seizures in persons who are photosensitive. Please review the important safety information in the Atomic 3000 DMX user manual.

**Read this manual** before powering or installing the fixtures, follow the safety precautions listed below and observe all warnings in this manual.

If you have questions about how to operate the fixtures safely, please contact your Martin dealer or call the Martin 24-hour service hotline at +45 70 200 201.

### Atomic Colors: Safety instructions.

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#### General

- Read this manual fully before starting to use the unit.
- Ensure that no objects or items are near the front aperture, or can get trapped in the roller mechanism.
- Make sure the power supply for the Atomic Colors is connected and switched on, **before operating the Atomic strobe.**

#### To guard against falls

- When fitting the unit to the Atomic 3000DMX, ensure all screws are thoroughly re-tightened.
- When rigging the unit, use the safety wire attached to the unit as a means of secondary attachment.  
**Note: This safety wire is designed solely for use with the Atomic Colors unit. Use a separate safety wire for Atomic 3000DMX strobe, and any other pieces of equipment.**
- When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
- Verify that all external covers and rigging hardware are securely fastened and use an approved means of secondary attachment such as a safety cable.
- Block access below the work area whenever installing or removing the fixture.

#### To guard against epileptic seizure

- Do not operate the fixture near stairways.
- Provide advance notice that strobe lighting is in use.
- Avoid extended periods of continuous flashing, particularly at frequencies of 10 to 20 flashes per second, or with the color red.

## INTRODUCTION

The Atomic Colors is a dedicated add-on unit for the Martin Atomic 3000 DMX strobe. This unit enhances the versatility of the Atomic 3000 DMX by adding the extra dimension of color changes that can be controlled and programmed with any standard DMX controller.

Color changing is achieved by moving (or scrolling) a string of colored ‘gels’ (theatrical grade, plastic color media) in front of the strobe unit. A processor controlled, low voltage DC motor drives the movement of the gel string, with the processor receiving instructions from a lighting controller. The internal processor also determines the positions of the individual colors and controls the speed of the cooling fans. The lighting controller can be any device that outputs the widely used USITT DMX (1990) data protocol (‘DMX’), including the one that may already be controlling your Atomic 3000 DMX strobe.

The Atomic Colors requires an external power supply that is not included. Standard scroller power supplies are available in various unit sizes. Each Atomic Colors requires one unit of power. The size of power supply required is dependant on how many Atomic Colors you are using. Eight Atomic Colors, for example, can be driven with a standard 8-unit scroller power supply.

The scroller power supply combines the low voltage and the DMX data for the Atomic Colors in a special four-wire cable with XLR-4 connectors. The Atomic Colors features a ‘through’ XLR-4 connector that allows multiple units to be connected in a ‘daisy-chain’ to a single external power supply.

The unit comes supplied with a gel string installed. This gel string has 10 color filters joined together with special high temperature tape, to form one continuous piece. The colors in this gel string have been chosen to offer a wide choice of color and intensity, and various other gel strings are also available from your dealer. Custom made gel strings can be supplied, to special order.

It is possible for the user to manufacture their own gel strings for use in the unit, although this must be done with great care. Poorly constructed gel strings may contribute to the unit failing to work properly.

Mounting the Atomic Colors unit onto the Atomic 3000 DMX strobe is easily achieved using existing hardware from the Atomic DMX 3000, and a permanently fixed steel safety wire is supplied for secondary attachment.

# PREPARATION FOR USE

## Unpacking

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The Atomic Colors comes with the following items:

- 5 M (16.4 ft) XLR-4 connecting cable
- Standard gel string (factory installed)
- User manual

The packing material protects the fixture during shipment; always use it to transport the fixture.

## System overview

*(Detailed connection diagrams are given in Section 5.)*

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### Power supply

The Atomic Colors requires a separate external power supply. These are supplied separately and come in various standard unit sizes. Each Atomic Colors requires one unit of power.

The Martin Atomic power supplies, MPU-02 and MPU-08 will function on any standard worldwide voltage/frequency electrical supply.

You may need to attach a plug on the mains cable for power supply.

To install a plug on the mains lead

The mains lead must be fitted with a heavy-duty cord cap with ground connection. Consult a qualified electrician if you have any doubts about proper installation.

Following the cord cap manufacturer's instructions, connect the yellow and green wire to ground (earth), the brown wire to live, and the blue wire to neutral. The table below shows some pin identification schemes.

Wire	Pin	Marking	Screw color
Brown	Live	“L”	Yellow or brass
Blue	Neutral	“N”	Silver
Yellow/green	Ground		Green

## **Control data**

Any device that outputs the DMX512 (1990) data protocol (including the one that may already be controlling your Atomic 3000 DMX strobe) can be used to control the Atomic Colors. 'DMX' is an industry standard data protocol, which allows up to 512 channels to be controlled through one serial data link. These 512 channels may be used by up to a maximum of 32 devices on only one cable run by 'daisy-chaining' the devices together.

To work on the DMX system, each device is assigned a control address, also known as the start channel, which is the first channel used by that device, to receive instructions from the controller. The Atomic Colors uses 1, or 2 DMX channels depending on which control mode it is set for. The first DMX channel (start channel) controls the movement of the gel string, and the second channel, if selected, allows for remote control of the cooling fan speed. Details of the address setting procedure are given in Section 6 of this manual.

## **Cables**

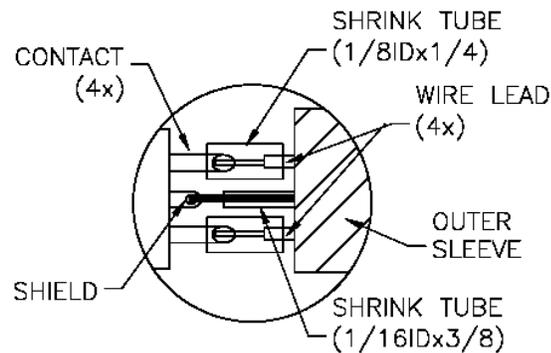
The power supply combines the control data and low voltage power into one XLR-4 cable that is then distributed to the fixture(s). One 5M (16.4 ft) XLR 4-pin cable is supplied with each fixture. The power supply connects to the DMX data link with 3 or 5-pin XLR cables.

The type of cable used in this system has specific design requirements. Failure to use the correct type of cable can lead to malfunctions and/or damage to the system. Further details about cable construction are shown later in this section.

## XLR-4 Cable Construction

### Notes:

- It is very important to ensure that the drain wire from the cable shield is connected to both XLR connector cases.
- Damage will occur if power connections short to the data, ground, or shield connections.
- When assembling XLR 4-pin cables, heat shrink should be used on each individual pin to prevent short circuits. (See diagram below)
- Please take care when constructing these cables. A high percentage of problems are a direct result of poor cable construction.



*Detail of connector wiring (typical)*

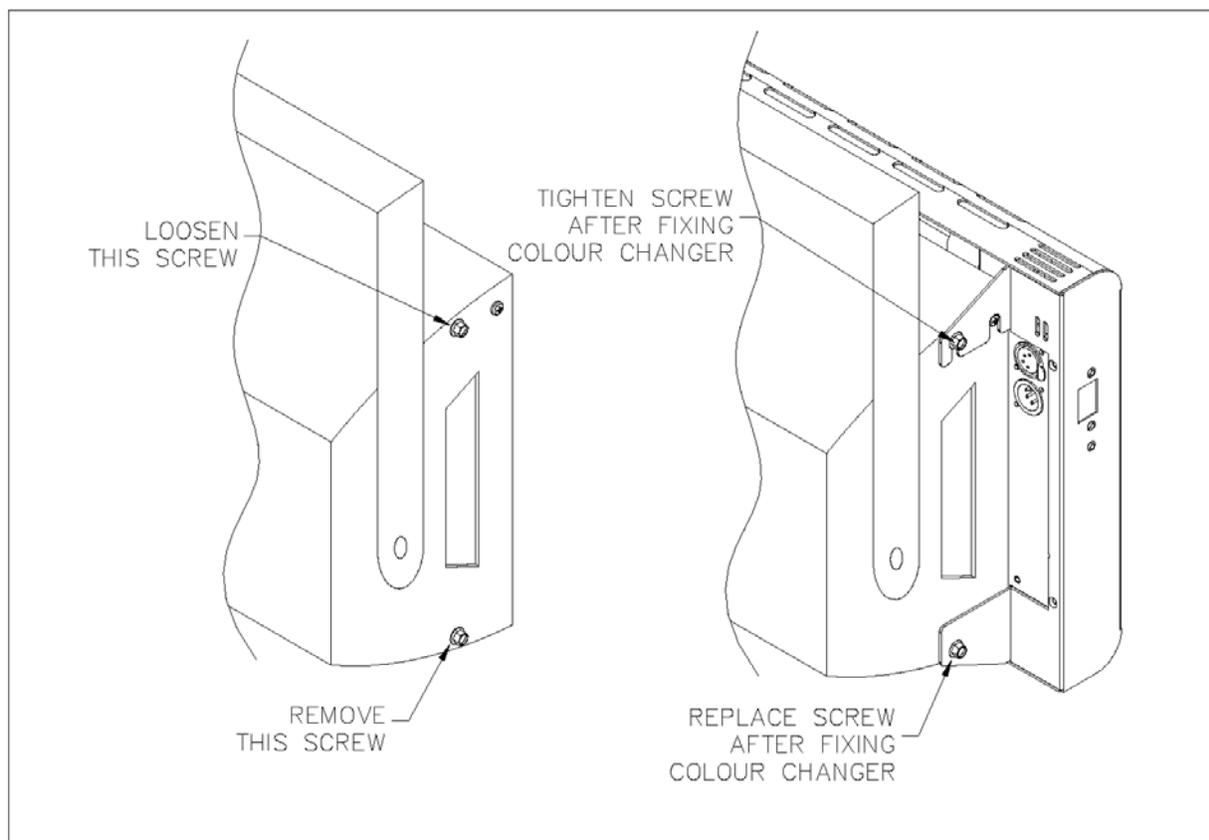
The correct wiring between male and female connectors is 'one to one'.

XLR-4 Connector (Pin No.)	Function	Minimum Cable size	
1	Ground (0 V)	2.50mm <sup>2</sup> (14 AWG)	
2	Control data minus (-)	0.35mm <sup>2</sup> (22 AWG)	Twisted data pair, with foil shield and drain wire.
3	Control data plus (+)	0.35mm <sup>2</sup> (22 AWG)	
4	24 VDC (+ve)	2.50mm <sup>2</sup> (14 AWG)	
Chassis	Cable shield/Drain wire	0.25mm <sup>2</sup> (24 AWG)	(See above)

## MOUNTING THE UNIT

1. Place the Atomic 3000 DMX unit so that it is resting on its bottom edge as shown below.
2. Using an 8mm AF wrench, carefully remove the lower, front, M5 'Taptite' screws on sides of the Atomic 3000 DMX.
3. Loosen the top, front M5 'Taptite' screws so that they protrude 5-6mm.
4. Position the Atomic Colors in front of the strobe as shown with the top hooks resting on the loose 'Taptite' screws. Align the lower front screw holes and replace the lower front screws.
5. Tighten all screws.
6. Rig Atomic 3000 DMX/Colors fixture and fasten the safety wires.

**Note: The safety wire attached to the unit is designed solely for use with the Atomic Colors unit. Use a separate safety wire for Atomic 3000DMX strobe.**



*Attaching the 'Atomic Colors' unit to the 'Atomic 3000 DMX' strobe.  
(For clarity, only one side of the units are shown)*

# CONNECTING THE UNIT

## System Connections

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This section describes how to connect the Atomic Colors to your lighting system using a 2-unit or an 8-unit external power supply.

### Notes:

- Ensure the AC input power is **switched off** while you are connecting components of the system.
- **Do not connect** the power supplies to any type of dimmer circuit.
- **Before operating the Atomic strobe**, make sure the power supply for the Atomic Colors is connected, and switched on.
- When rigging the fixture and power supplies, use the safety wires as a means of secondary attachment.
- When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
- Ensure that all cables are securely fixed and do not present a safety hazard of any sort.

## MPU-02 / MPU-08 Power Supplies

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The MPU-02 and MPU-08 power supplies are specifically designed for use with the Atomic Colors. They are suitable for use with any 100-250 V, 50/60 Hz AC power supply, via an IEC320/CEE 22 socket.

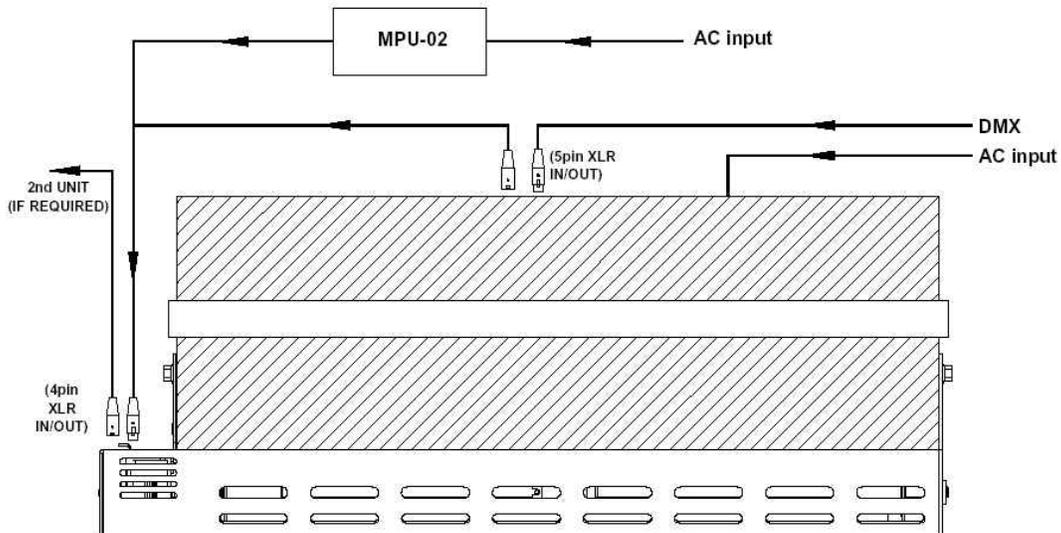
The MPU-02 is a small, compact unit that powers two Atomic Colors. It has an XLR-5 connector for DMX input and an XLR-4 connector for the combined power/data output to the color scroller(s).

The MPU-08 is a rugged, touring style unit for theatrical bar/truss mounting. It can power up to eight Atomic Colors fixtures in 2 circuits of four. It provides XLR-5 input/through output sockets for DMX data, and 2 sets of XLR-4 input/return sockets for combined LV power/DMX data.

## MPU-02 Connection Procedure

1. Rig the combined Atomic 3000 DMX and Atomic Colors fixture in the desired position, ensuring that you use the safety wire as a secondary means of attachment.
2. Connect the power/data output on the MPU-02 to the power/data input on the Atomic Colors with an XLR-4 cable.
3. Connect the MPU-02 to the main data link using the XLR-5 input. You can, for example, run a 5-pin XLR cable from the DMX output of an Atomic 3000 DMX to the input of the power supply. For more information on building a data link, please refer to the Atomic DMX 3000 user manual. Continue “daisy-chaining” the DMX link by connecting the 5-pin DMX thru socket on the power supply to the next Atomic 3000 DMX, power supply, or other fixture.
4. Connect a second Atomic Colors unit, if desired, to the first unit using the second XLR-4 socket and an XLR-4 cable.
5. Connect the MPU-02 and the Atomic 3000 DMX units to the AC supply.

**Note: Before operating the Atomic strobe,** make sure the power supply for the Atomic Colors is connected, and switched on.



System connections using the MPU-02 power supply.

## MPU-08 Connection procedure

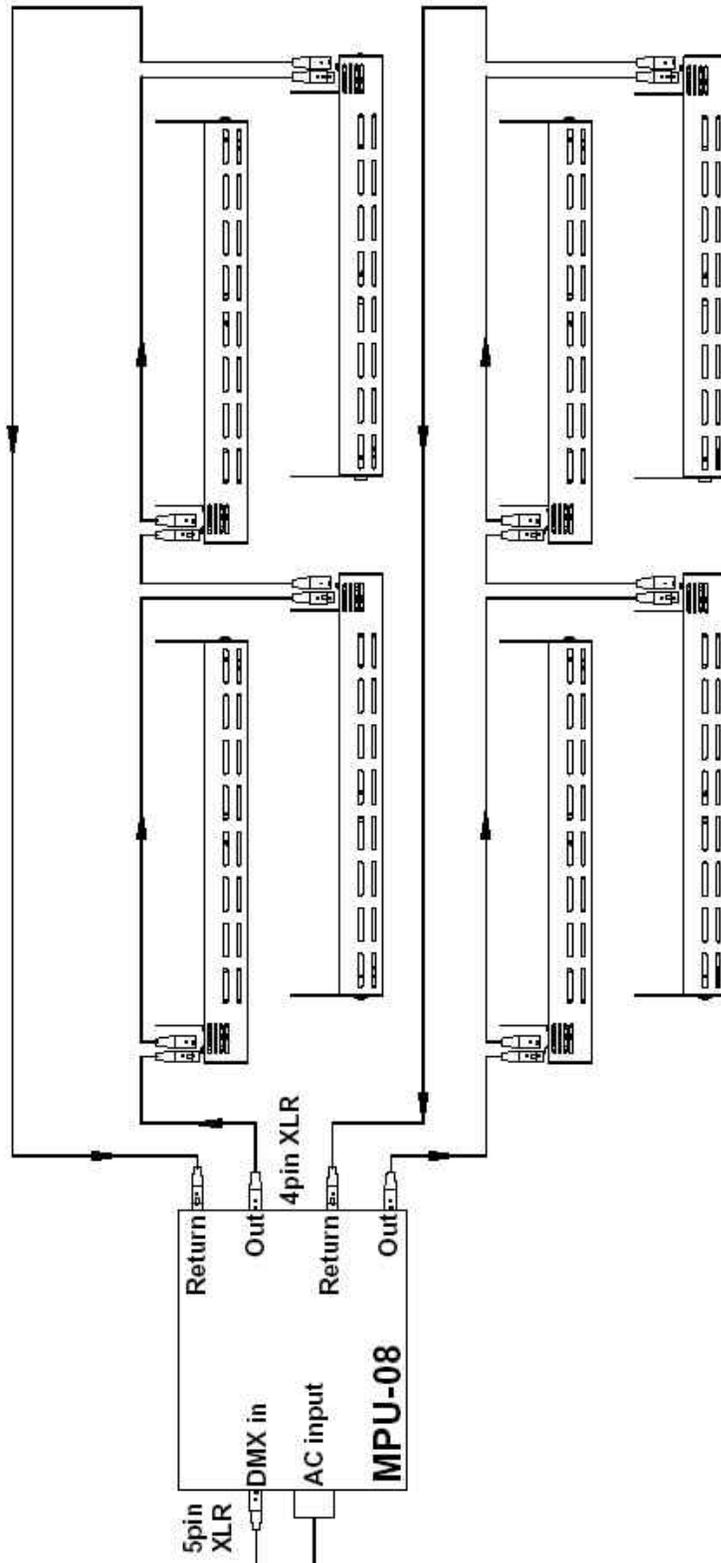
### Important Note: 'Return' lines

**The MPU-08 is designed for use with larger quantities of Atomic Colors fixtures, and in bigger installations where the cable runs a longer. In order to reduce the voltage drop in these longer cable runs, an XLR-4 'Return' cable must be installed in the system, so the cabling forms a continuous loop.**

1. Rig the combined Atomic 3000DMX and Atomic Colors fixtures in their desired positions, ensuring that you use the safety wire as a secondary means of attachment.
2. Connect your source of DMX data to the XLR-5 input socket on the front of the MPU-08.
3. Using an XLR-4 cable, connect the 'out' of 'Power outlet 1' on the MPU-08, to the XLR-4 input on the Atomic Colors fixture #1.
4. Using another XLR-4 cable, connect the XLR-4 output of Atomic Colors fixture #1, to the XLR-4 input on the Atomic Colors fixture #2.
5. Repeat step 4, until you have a maximum of four Atomic Colors fixtures connected together.
6. Connect the XLR-4 output on the last Atomic Colors fixture to the 'Return' of 'Power outlet 1' on the MPU-08.
7. Repeat steps 3-6 using cables and fixtures connected to 'Power outlet 2' on the MPU-08,
8. Connect the AC supplies to the MPU-08 and the Atomic 3000DMX unit(s).

**Note: Proper connection of the units to the power supply is important!  
Please follow these basic rules.**

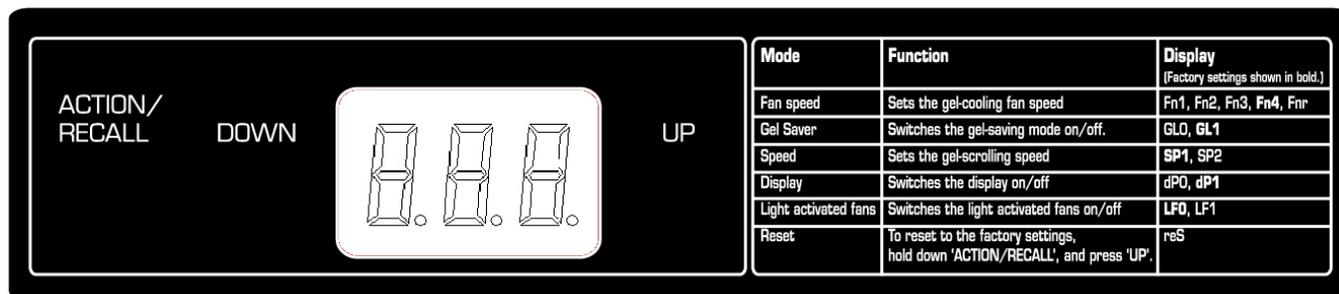
- Use the proper type of cable and connectors.
- Keep cable runs as short as possible, to reduce line loss.
- The total cable length for run should not exceed 75 M (245 ft), including the return line.
- Always use a return cable for each cable run. This will ensure balanced LV power to all units.
- **Before operating the Atomic strobe**, make sure the power supply for the Atomic Colors is connected, and switched on.



System connection diagram using the MPU-08 power supply  
 (For clarity, only the Atomic Colors are shown)

## OPERATING THE UNIT

All user settings are accessed using the LED display and the three push buttons on the side panel.



<i>Control</i>	<i>Function</i>
'ACTION/RECALL'	Mode access and 'Record'
'DOWN'	Decrements the mode level, or value
'UP'	Increments the mode level, or value
<b>3 digit display</b>	Displays modes, monitor, or blank display.

### Powering up the system

When you power up the system, the following things happen:

- The gel string moves from one end to the other to determine the length of the string installed.
- The LED display shows the unit's control address. After 5-7 seconds, the display switches to monitor mode.
- If the unit is receiving DMX data, the gel string then moves to a position determined by the control signal.

The Atomic 3000DMX strobe may begin to flash, depending on the way it is set up and the value of the DMX signal that the unit is receiving.

### Push Button Operation:

Use the '**ACTION/RECALL**' button to scroll through the different modes of operation. Use the '**UP**' or '**DOWN**' buttons to select values in that mode. When a mode or value is changed, the last display character will flash until the '**ACTION/RECALL**' button is pushed to acknowledge (or record) the change. The new setting takes effect the next time the unit is powered up.

### Display Operation:

#### Power-up Display

On power-up, the display will show the DMX address.

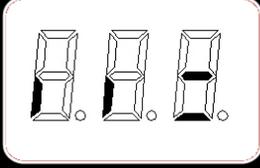


## Monitor Display

If left undisturbed for 5-7 seconds, the display will revert to 'Monitor Mode'

ACTION/  
RECALL

DOWN



UP

Mode	Function	Display <small>(Factory settings shown in bold.)</small>
Fan speed	Sets the gel-cooling fan speed	<b>Fn1</b> , Fn2, Fn3, <b>Fn4</b> , Fnr
Gel Saver	Switches the gel-saving mode on/off.	<b>GL0</b> , <b>GL1</b>
Speed	Sets the gel-scrolling speed	<b>SP1</b> , <b>SP2</b>
Display	Switches the display on/off	<b>dP0</b> , <b>dP1</b>
Light activated fans	Switches the light activated fans on/off	<b>LF0</b> , <b>LF1</b>
Reset	To reset to the factory settings, hold down 'ACTION/RECALL' and press 'UP'.	<b>reS</b>

The left hand vertical bar indicates that there is power (24V DC) at the unit.

The middle vertical bar indicates that there is data (DMX) at the unit.

The horizontal bars indicate the data signal level (DMX) at the unit.

## Display Flip

The display-viewing angle can be flipped through 180° by pressing and holding the 'ACTION/RECALL' button, then pressing the 'DOWN' button.

## Display Blank

The display can be set to auto-blackout after short time. This is selected through the mode menu. (See later in this section)

## Reset

If the 'ACTION/RECALL' button is depressed, and the 'UP' button held down for 1 second, the unit will reset to the factory default settings and the display will show **reS** for 1 second.

This feature is particularly useful when the units are used in many different configurations/ or shows.



## Unit settings:

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### Note:

After changing any of the settings, press **'ACTION/RECALL'** to store the new value.

### DMX address

Selects the unit's DMX address (start channel).

The Atomic Colors uses 1, or 2 DMX channels depending on the fan speed control setting. The first DMX channel (start channel) controls the movement of the gel string, and the second channel, if remote fan control (Fnr) is selected, controls the cooling fan speed.

The unit will automatically select the two DMX channel mode if the fan speed setting is set for **'Fnr'** (see below), otherwise the unit will remain in single DMX channel mode.

To change the address, press **'UP'** or **'DOWN'** button once to increment/ decrement the value; hold down the **'UP'** or **'DOWN'** button for fast increments/ decrements of the value.

### Fan speed (Fn)

Sets the speed of the gel-cooling fan, and 1 or 2 channel DMX operation.

There are four fixed fan speeds levels, **'Fn1'** being the slowest and **'Fn4'** being the fastest. The **'Fnr'** option allows you to control the fan speed through the second DMX channel.

**Please note** that extended operation with low gel-cooling fan speeds may have a detrimental effect on the life of the gel string.

Second DMX Channel			
Channel Level (Dec)	Channel Level (%)	Speed Level	Fan Speed
00-61	0-24	Fn4	Fastest
62-127	25-49	Fn3	:
128-190	50-74	Fn2	:
191-255	75-100	Fn1	Slowest

### Gel saver (GL)

Toggle the gel saving feature on **'GL1'** or off **'GL0'**. This feature slowly moves the chosen gel(s) back and forward slightly, so that heat from the lamp is dissipated over a larger area. This can extend the life of the gel string.

Note: - Visually check that the gel is correctly positioned before using the gel saver feature. If the gel position is not correct, adjacent colors may show, and the joining tape may overheat.

(See programming notes)

### Speed (SP)

Set the scroll speed.

Select normal speed **'SP1'** for quieter operation or fast speed **'SP2'** for faster color changes.

### Display (dP)

Switch the display on **'dP1'** or off **'dP0'**. This feature can be used to blank displays that may be an unwanted distraction. When off, the display will re-activate when any button is pressed.

### Light activated fan (LF)

Toggle the automatic, light-activated cooling feature on **'LF1'** or off **'LF0'**. This setting allows the gel cooling fans to be activated by the light output of the Atomic 3000 strobe. When on, light from the strobe automatically switches the fans to their set speed, and activates the Gel saver function (if **'GL'** set at 1).

## Factory settings

To restore factory default settings, press and hold the 'ACTION/RECALL' button and press the 'UP' button for 1 second.



The 'Factory' default settings are: -

- Fan Speed = Fn4 (fast)
- Gel Saver = GL1 (On)
- Gel Speed = SP1 (normal)
- Display = dP1 (On)
- Light activated Fan = LF0 (off)
- Display Flip = Standard

## Summary of control functions:

<b>Setting</b>	<b>Description</b>	<b>Actions required</b>	<b>Display</b>
DMX address	Sets the unit's DMX address	Press <b>'UP'</b> or <b>'DOWN'</b> <u>once</u> to increment/decrement the value, <u>hold down</u> the <b>'UP'</b> or <b>'DOWN'</b> for fast forward/reverse. Note: - The unit uses 1, or 2 DMX channels depending on which control mode it is set for ( <i>see below</i> ).	
<b>(See also, DMX addressing instructions)</b>			
Fan speed	Sets the fan speed	There are four fan speeds, 1 is the slowest, 4 is the fastest and a remote option. The unit uses 1 DMX channel when a numbered fan speed is selected.  Selecting Fnr automatically places the unit in two DMX channel mode, and allows the fan speed to be controlled by the second DMX channel.  Press <b>'UP'</b> or <b>'DOWN'</b> <u>once</u> to increment/decrement the value,	  
<b>(See also, fan speed instructions)</b>			
'Gel Saver'	Switches on/off the gel saving mode.	Press <b>'UP'</b> or <b>'DOWN'</b> <u>once</u> to switch between on (1) and off (0). Note: - Ensure that the gel is centered (by channel/DMX value) before implementing this mode, or the next color may show through during the gel saver mode.	 
<b>(See also, gel saver mode instructions)</b>			
'speed'	Sets the scrolling speed	There are two scrolling speeds. 1 is the normal speed, 2 is the fast speed. Press <b>'DOWN'</b> or <b>'UP'</b> <u>once</u> to increment/decrement the value,	 
<b>(See also, gel scroll speed instructions)</b>			
'disPlay'	Switches display on/off	Press <b>'UP'</b> or <b>'DOWN'</b> to switch between on (1) and off (0).  Display will re-activate when any button is pressed.	 
<b>(See also, display mode instructions)</b>			
Light activated Fans	Allows light output to control the cooling fans.	Press <b>'UP'</b> or <b>'DOWN'</b> <u>once</u> to switch between on (1) and off (0).	 
<b>(See also, fan mode instructions)</b>			
reSet	Resets the unit to the default settings.	While holding down <b>'ACTION/RECALL'</b> button, press the <b>'UP'</b> button.	
<b>(See also, reset instructions)</b>			

## Programming notes:

The Atomic Colors uses 1 or 2 DMX channels, depending on which control mode it is set for. The first DMX channel (start channel) controls the movement of the gel string, and the second channel, if selected allows for remote control of the cooling fan speed. The unit will automatically select the two DMX channel mode if the fan speed setting is set for 'Fnr' (see below), otherwise the unit will remain in single DMX channel mode.

<b>First DMX Channel</b> (See notes below)				
<b>Channel Level (Dec)</b>	<b>Channel Level (%)</b>	<b>Gel Position No.</b>	<b>Standard Gel String</b>	
			<b>'Rosco'™ Gel</b>	
			<b>Color</b>	<b>Color No.</b>
0	0	0	No Color/Open White	R-00
26	10	1	Straw	R-12
51	20	2	Pale Amber Gold	R-09
77	30	3	Orange	R-23
105	41	4	Red	R-26
130	51	5	Broadway Pink	R-339
156	61	6	Light Lavender	R-52
181	71	7	Aquamarine	R-363
207	81	8	Green Blue	R-77
230	90	9	Light Green	R-88
255	100	10	Blue Grass	R-2005

<b>Second DMX Channel</b>			
<i>Selecting 'Fnr' in the fan mode automatically places the unit in two DMX channel mode, and allows the fan speed to be controlled by the second DMX channel.</i>			
<b>Channel Level (Dec)</b>	<b>Channel Level (%)</b>	<b>Speed Level</b>	<b>Fan Speed</b> (See notes below)
00-61	0-24	Fn4	Fastest
62-127	25-49	Fn3	:
128-190	50-74	Fn2	:
191-255	75-100	Fn1	Slowest

### Important notes

1. Please note that over time, the gel string may shrink and/or warp slightly. This is an inherent property of the gel substrate. This may alter the positions of the gels relative to their pre-programmed DMX values and therefore some 'fine-tuning' may be required.
2. Using the 'Gel saver' mode. This feature slowly moves the chosen gel(s) back and forward slightly, so that heat from the lamp is dissipated over a larger area. This can extend the life of the gel string.
 

**Note:** - Visually check that the gel is in the correct position before using the gel saver feature. In the correct position, the bottom tape join of the color should be just out of view when looking at the lower edge of the unit's front aperture. This can be verified by slowly altering the DMX channel level to see the tape position. If the gel is not correctly positioned, adjacent colors may show, and the joining tape may overheat.
3. Please note that extended operation with low cooling fan speeds may have a detrimental effect on the life of the gel string.

# CHANGING THE GEL STRING

## Introduction

The unit comes supplied with a gel string installed. This gel string has 10 separate color filters joined with special high temperature tape to form one continuous piece. The colors in this gel string have been chosen to offer a wide choice of color and intensity, and various other gel strings are available from your dealer. Custom made gel strings can also be supplied, to special order.

It is possible for the user to manufacture their own gel strings for use in the unit, although this must be done with great care. Badly constructed gel strings may contribute to the unit failing to work properly. Details of gel string construction are given at the end of this section.

Changing the gel string is not difficult, but it may take some time and practice to accomplish if the user is not familiar with these types of units. There are two methods of loading gel strings on the Atomic Colors, manual and power assisted loading.

### **Installation Notes:**

- **Observe how the original gel string is fitted before replacing it, and refer to the drawings later in this section.**
- **The gel string is close to the front panel and is installed from the rear of the unit. The string must be fed under the Take-Up-Reels and over the top before attaching it to the anchors.**
- **New users are recommended to use the manual loading method until they become familiar with the procedure.**
- **When installing a gel string, always start by applying the ‘head’ end of the gel string to the ‘motor’ shaft. Manufactured gel strings have the ‘head’ end marked.**

To change the gel string you will need

- 1 x gel string for an Atomic 3000 Scroller
- 1 x Roll of flat back adhesive tape 25mm (1”) wide

## Manual loading

1. Unplug the unit and remove it from the Atomic 3000 DMX strobe to which it is attached.
2. Remove all pieces of the old gel string. This may involve unwinding the gel from the Take-Up Reels (TUR). Exercise caution, and do this slowly, to avoid damaging the gel transport mechanism.
3. Place the unit on a flat surface with the motor/electronics section on your left-hand side. Take the gel string ‘Head’ end, and attach the gel tab to the hook on the TUR anchor of the shaft at the top of the unit (Motor shaft). Use small pieces of flat back tape to secure the gel to the TUR hubs on either side (top and bottom).
4. Manually turn the shaft to slowly roll the gel string onto the TUR. Continue rolling the gel onto the TUR until the other end is reached.
5. Firmly holding the edge of the shaft (to keep it from moving), gently pull the gel tab towards you to ensure that the gel is tightly rolled onto the TUR.

6. Rotate whole the unit so that the motor/fan/ electronics section on your right-hand side. Place the gel tab beside the anchor on the other shaft (Spring shaft). With your left hand, firmly hold the gel tab next to the anchor hook but do not attach it yet. With your right hand, turn the anchor hub of the spring shaft away from you (counter-clockwise) for four complete turns. As you turn the shaft you should feel the spring tension increasing.
7. After tensioning, hold the anchor steady and hook the gel tab onto the anchor. Use small pieces of flat back tape to secure the gel to the TUR hubs on either side.
8. Manually roll some of the gel string onto the TUR to make sure it is seating properly. Plug in the scroller, and check that it goes through the initialization sequence correctly. Check that the gel runs smoothly and does not bind up on the TUR's.
9. Run a test sequence to allow the gel string to 'bed' in. The unit does not have to be attached to an Atomic 3000 DMX strobe to perform this operation. Run this sequence for a few minutes, or 3-4 times.

## Power Assisted Loading

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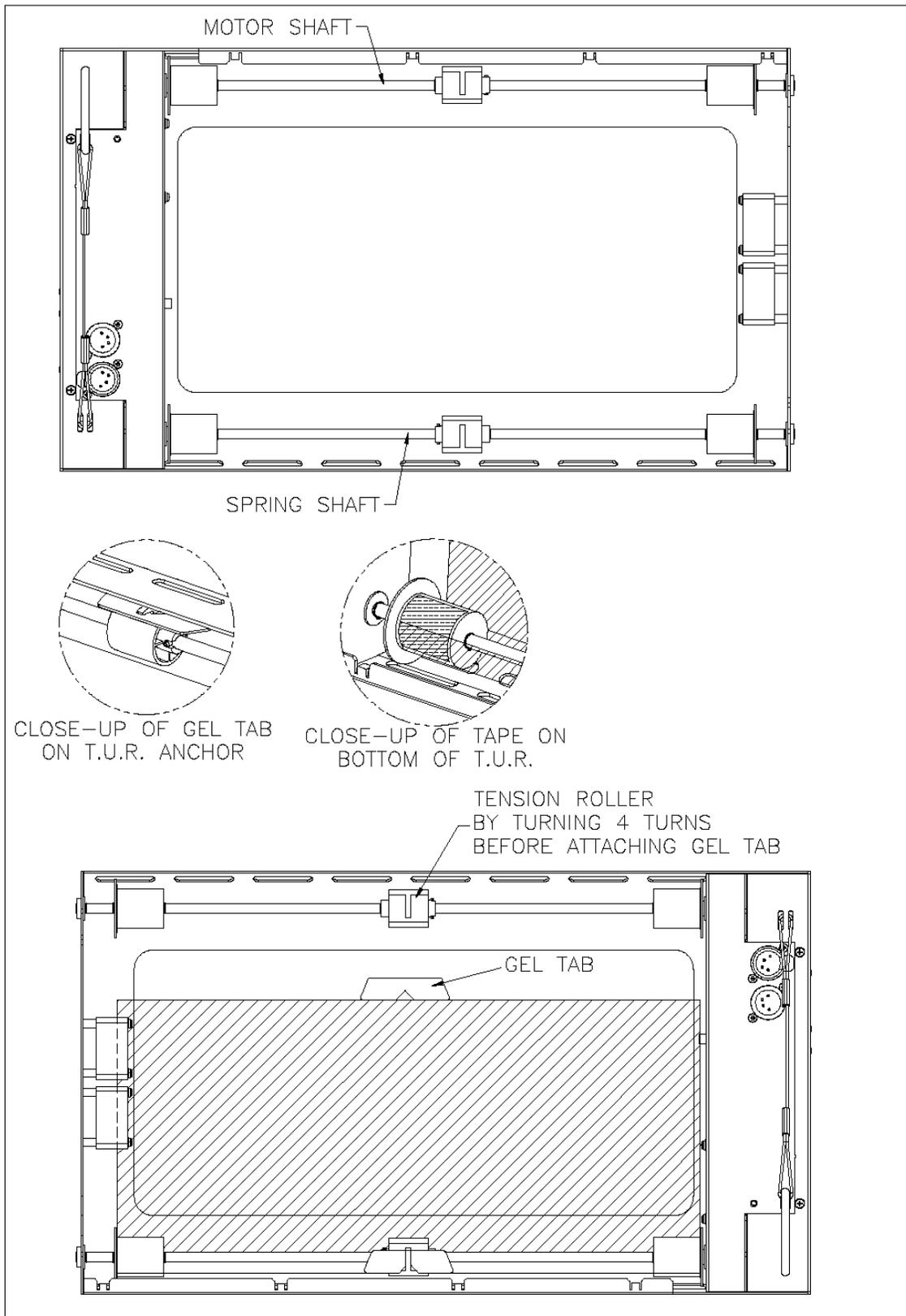
1. While pressing down the **'ACTION/RECALL'** push button, apply power to the unit.

The display will show the legend 'PAL'

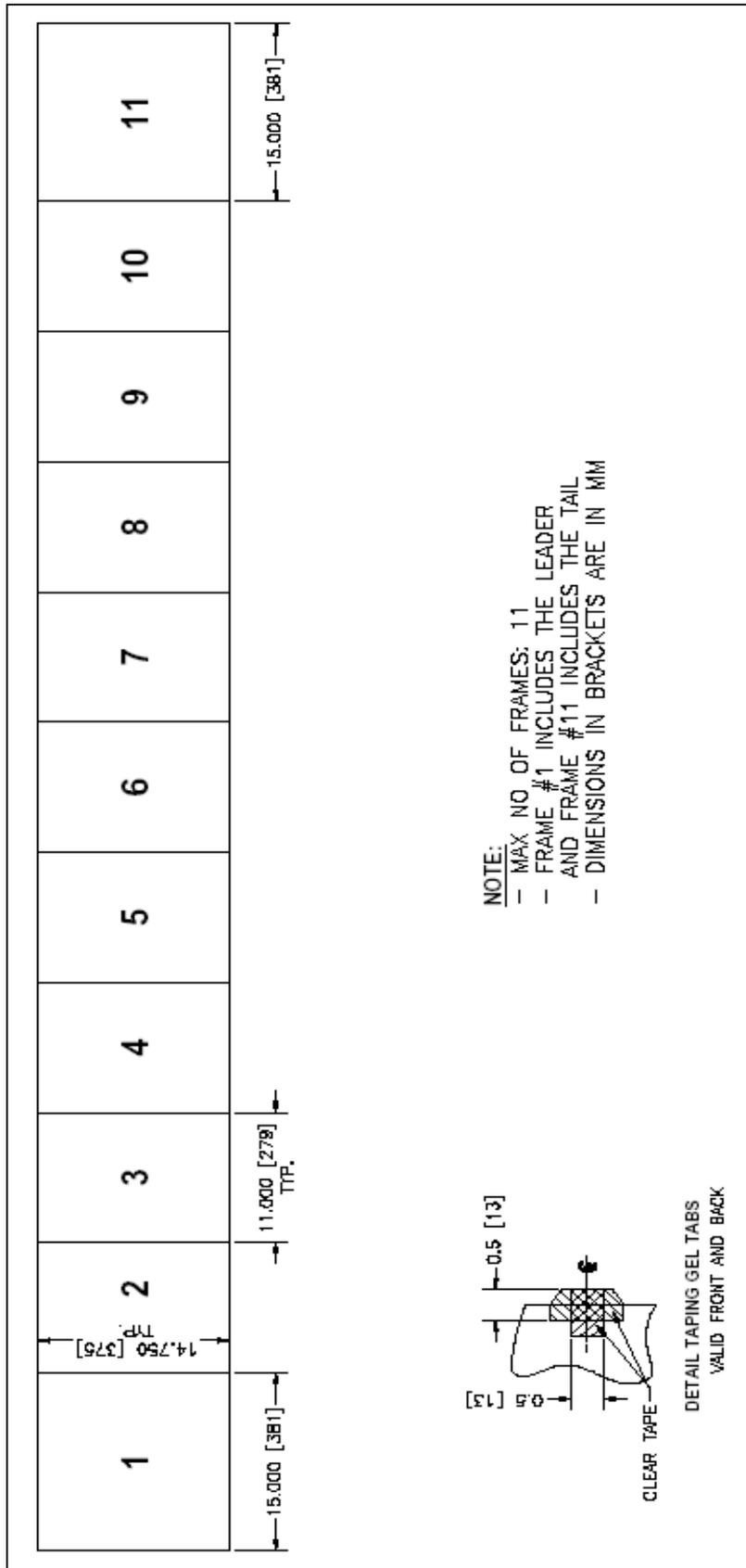


2. Place the unit on a flat surface with the motor/electronics section on your left-hand side. Take the gel string 'Head' end, and attach the gel tab to the hook on the TUR anchor of the shaft at the top of the unit (Motor shaft). Use small pieces of flat back tape 25mm (1") to secure the gel to the TUR hubs on either side (top and bottom).
3. Press the **'DOWN'** push button to advance the gel string onto the TUR.
4. Continue this process until you see the other end of the gel string approaching.
5. Firmly holding the gear of the rear fixed shaft (to stop it moving), gently pull the gel tab towards you. This ensures that the gel is tightly rolled onto the TUR.
6. Rotate whole the unit so that the motor/fan/ electronics section on your right-hand side. Place the gel tab beside the anchor on the other shaft (Spring shaft). With your left hand, firmly hold the gel tab next to the anchor hook but do not attach it yet. With your right hand, turn the anchor hub of the spring shaft away from you (counter clockwise) for four complete turns. As you turn the shaft you should feel the spring tension increasing.
7. After tensioning, hold the anchor steady and then hook the gel tab onto the anchor. Use small pieces of the flat back tape to secure the gel to the TUR hubs on either side.
8. Press the **'UP'** push button to move the gel string back onto the TUR. Use the push buttons to move the gel to and fro, checking that the gel is sitting correctly on the TUR's.
9. Allow the unit to self-calibrate by pressing the **'UP'** & **'DOWN'** buttons simultaneously, or by unplugging/re-plugging the unit.
10. Run a test sequence to allow the gel string to 'bed' in. The unit does not have to be attached to a lighting fixture to perform this operation. It is recommended that run this sequence for a few minutes (or 3 - 4 times, end-to-end).

## Installation of a gel string



# Gel string construction



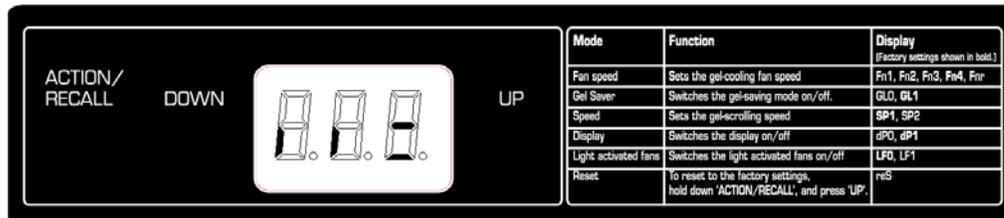
# SERVICE

## Problem Troubleshooting

Troubleshooting is a process of elimination. First, rule out the other field factors (i.e. faulty cables, power sources). For full technical advice and/ or parts, please contact your selling dealer. The LED display aids in the troubleshooting of the Atomic Colors unit. The display is located on the on the side panel of each unit.

### Note:

A high percentage of problems are a direct result of poor cable and corrupt DMX control signals.



- (1) The left hand vertical bar indicates that there is power (24V DC) at the unit.
- (2) The middle vertical bar indicates that there is data (DMX) at the unit.
- (3) The horizontal bars indicate the data signal level (DMX) at the unit.
- (4) 1<sup>st</sup> bar = 25%, 2<sup>nd</sup> bar = 50%, 3<sup>rd</sup> bar = 75%,  
(Note: The signal level changes during normal operation of the unit).

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Unit does not respond to DMX control, but DMX display indicator is on.	Unit set to a wrong, or different DMX address.	Check DMX address settings.
Unit does not respond to DMX, DMX display indicator is off.	Bad Cable. No DMX at power supply.	Check cable and DMX signal
Units run at different speeds	Unit speed settings may be different. Cable lengths are too long.  No cable 'return line'.	Check all scroller speed settings. Check the cable length and configuration. Ensure there is a cable return line in the system.
Units have dim display indicators and run slowly.	Over loading or cable runs too long. PSU overloaded.	Check voltage levels on last unit. Should not be below 21.5V DC.
DMX display indicator is off on one unit.	Bad cable Blown transceiver IC in the scroller.	Check cable Send unit back for repair.
Display Indicators appear OK but gel string does not move.	Mechanical (or electrical) failure in the unit.	Turn unit on and off. Return unit for repair.
Gel burns too quickly	Fans have failed or are too slow. Make sure the power supply for the Atomic Colors is connected and switched on.	Check fans are operating.

### Note

The color transport system employs an opto-electronic system for accurate positioning of the gel. When the unit initially receives power, it will go through a calibration sequence. The purpose of the initial calibration sequence during power up is to determine the total length of the gel string, and therefore the position of the different gels.

**Please note** that over time the gel string may warp slightly. This may alter the positions of the gels relative to their pre-programmed DMX values and therefore some 'fine-tuning' may be required.

## SPECIFICATIONS

### Physical

Size: 470 x 273 x 102 mm (18.5 x 10.7 x 4.0 in.)  
 Weight: 2.5 kg (5.6 lb)

### Thermal

Max. ambient temperature 40° C (104° F)  
 Cooling 3 variable speed fans

### Control and programming

Compatible control systems USITT DMX512  
 Control channels 1 or 2  
 Interface Three button LED control panel  
 Power/Data connector pin-out XLR-4 (male) input / XLR-4 (female) through  
 Pin 1 Ground (0 V)  
 Pin 2 Data (- Minus)  
 Pin 3 Data (+ Plus)  
 Pin 4 24 V (+ve DC)  
 Chassis Shield/Drain wire

### DC supply

DC voltage 24 V DC (+/- 10%)  
 DC current 0.55 A (Max.)  
 Compatible power supplies MPU-02, MPU-08

### Color (gels)

Gel thickness 0.075-0.125mm (0.003-0.005 in)  
 For the best results, use gel strings supplied by your dealer.  
 Gel frame capacity 2-11 gel frames

### Construction

Housing Steel  
 Finish Black electrostatic powder coat

### Installation

Mounting Dedicated mounting for the Atomic 3000 DMX  
 Min. distance to combustible materials 0.5 m (20 in.)  
 Min. distance to illuminated surfaces 1.0 m (39 in.)  
 Min. clearance around fan and air vents 0.1 m (4 in.)

### Accessories

MPU-02 Power supply P/N 91611084  
 MPU-08 Power supply P/N 91611085  
 5m (16.4 ft) XLR-4 Cable P/N 11821014  
 Gel string #1 10 colors + clear P/N 91611087  
 Gel string #2 10 colors + clear P/N 91611090  
 Gel string #3 10 colors + clear P/N 91611088  
 Gel string #4 10 colors + clear P/N 91611089