



# **SPECTRUM**

## **User Manual**

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## Contents

### 1. Overview 3

- 1.1 Specification 3

### 2. Getting Started 4

- 2.1 Cautions & Warnings 4
- 2.2 Setting up SPECTRUM 4
- 2.3 Changing the DMX device 4
- 2.4 How does a visitor activate the device? 5
- 2.5 Essential maintenance 5

### 3. Troubleshooting & Support 6

- 3.1 Error scenarios 6
  - 3.1.1 DMX light not responding 6
  - 3.1.2 DMX light changing colour without input 6
- 3.2 Support 6

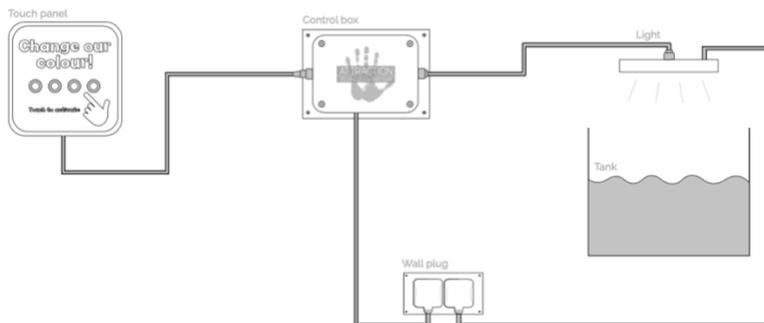
### 4. Appendix 7

- 4.1 Installing the control panel 7
- 4.2 Installing the touch button panel 7

## 1. Overview

This User Manual (UM) provides the information necessary for users to effectively set up, operate, and troubleshoot their new SPECTRUM product. SPECTRUM is a preset DMX controller which changes the colour of a connected DMX. It is ideal for cause-and-effect installations where, as an example, a guest at a visitor attraction could safely and easily change the colour of a piece of art, or just as easily activate a smoke machine or any other DMX compatible device. Please discuss your exact requirements with us at the time of ordering. The uniqueness of SPECTRUM is the ease of use and total power isolation that it affords the user, a core principal which is at the heart of the product.

The input trigger uses a waterproof, four-pin connector and can accept a number of Attraction Technology Systems Ltd input devices. We currently support coin operator devices, terminal blocks, and a touch button panel (supplied as standard). The touch button panel operates using a 5 volt DC capacitive touch sensor to detect the presence of a hand or finger, rather than requiring a physical touch; this works to further eliminate electrical risk, as well as providing a totally waterproof input device which is free of mechanical failure, as would be the case with a standard push-button.



## 1.1 Specification

POWER & CONNECTIVITY	
Power input	100-240V AC, 50/60 Hz
Inrush current	20A at 115V AC, 40A at 230V AC, cold start at 25 °C
Input protection	Internal A/250V AC fuse
Power output	n/a
Efficiency	71%
Earth leakage	Class II construction no earth
Connectivity	n/a

ENVIRONMENTAL	
Operating temperature	0 °C to +40 °C
Storage temperature	0 °C to +40 °C
Operating humidity	75% RH, non-condensing
Vibration	10 Hz to 250 Hz, 10 mins/cycle, 60 mins each cycle
Ingress protection	IP64

OPERATIONAL	
Dimensions	Button panel: 216x216x20mm, 0.4kg Controller: 219x153x60mm, 0.9kg
Factory settings	Light protocol: 8-channel DMX-512

## 2. Getting Started

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This section provides guidance on how to set up and operate your device.

### 2.1 Cautions & Warnings

SPECTRUM operates at mains voltage and no attempt should be made to gain access to the electrical components inside.

SPECTRUM is not supplied with a mains plug as we strongly recommend installation into a mains spur by a qualified electrician. It should be checked regularly by a competent person as detailed in the below section “Essential maintenance” and should always receive inspections or checks relevant to local guidelines.

### 2.2 Setting up SPECTRUM

Your SPECTRUM is a “plug-and-play” device and designed to work right out of the box. There are nonetheless some critical configuration steps that need to be followed in the correct order for SPECTRUM to operate correctly:

1. Carefully fix your SPECTRUM device to the wall by hand-tightening self-tapping screws through the screw holes located in each of the four corners of the control box.
2. Fix the touch panel to the wall using either self-tapping screws, or self-adhesive tape. Touch panel extension cables can be purchased if the touch panel needs to be located further away from the SPECTRUM control box.
3. Affix the graphic face plate by removing the outer layer of double-sided tape provided and pushing the face plate firmly into place. Apply even pressure for 10 seconds.
4. Plug the touch panel into the SPECTRUM control box and tighten the waterproof connector ring.
5. Connect SPECTRUM to mains voltage – this must be done by an electrician or competent person.
6. Connect the supplied 3-pin DMX cable between SPECTRUM and the “DMX IN” port on the light.
7. Plug the light into mains power, switch it on, and press the “mode” button until the display reads “d000”
8. Check that the green “power” LED on SPECTRUM is illuminated.

Your SPECTRUM device is now ready to use!

### 2.3 Changing the DMX device

SPECTRUM is supplied with a 15w Lixada 8-channel DMX LED light as standard. Only lights which use the DMX protocol are compatible with SPECTRUM. The software supplied is designed specifically for this light – if you intend to use a different fixture, or if you would like to customize SPECTRUM to your specific application, please contact us and we will be happy to program SPECTRUM to your needs.

It is possible to change the DMX device after production, we can create a new program which we can send to you and provide instructions on how to upload. This would allow you to control another brand of light, or another DMX device entirely. Please contact us to discuss.

## 2.4 How does a visitor activate the device?

SPECTRUM uses a simple touch panel interface, which uses a capacitive touch sensor to detect the presence of a hand or finger, rather than requiring a physical touch. To activate the light, visitors should touch the corresponding colour on the graphic panel and the light will change colour accordingly!

## 2.5 Essential maintenance

Maintenance is essential for the ongoing, successful operation and safety of your SPECTRUM device.

SPECTRUM is designed to work with the supplied DMX light. Both the SPECTRUM control box and light must be kept in a good state of repair.

Damage may occur if SPECTRUM is connected to a non-approved DMX or due to a faulty mains power supply.

It is therefore necessary to:

1. Carry out visual checks on both the control box and DMX light daily.
2. Complete regular electrical testing of the device by a competent person at least annually (in the UK, a Portable Appliance Test would be sufficient).
3. Complete regular testing of the mains power supply.

The unit should be switched off at the mains immediately following any signs of damage.

## 3. Troubleshooting & Support

This section describes the recovery and error correction procedures for SPECTRUM, including a breakdown of error scenarios and corrective actions that may need to be taken.

### 3.1 Error scenarios

#### 3.1.1 DMX light not responding

This section lists troubleshooting actions if the light is not responding.

1. Restart the device –the touch button sensor does need occasional recalibration (which occurs on power up).
2. Check for loose connections between the button panel and the control box. You will need to switch the control box off and on again upon reconnecting the button panel.
3. Check that your light actually works by using the selector buttons on the back of the light to enter manual mode, and see if the light changes colour. If not, the problem is likely due to a faulty DMX light.
4. Check the fuse in the plug of the device – these can burn out and may require replacement.
5. Check that the mode reads “d001” on the rear screen

Replacement lights can be purchased direct. Please contact us at [support@attraction-technology.co.uk](mailto:support@attraction-technology.co.uk).

#### 3.1.2 DMX light changing colour without input

This section lists troubleshooting actions if the DMX light is being triggered without the button being pressed.

1. Restart the device –the touch button sensor does need occasional recalibration (which occurs on power up) and might be “stuck”.
2. Check for loose connections between the button panel and the control box. You will need to switch the control box off and on again upon reconnecting the button panel.
3. Check for loose connections between the control box and DMX light.
4. Check that the mode reads “d001” on the rear screen

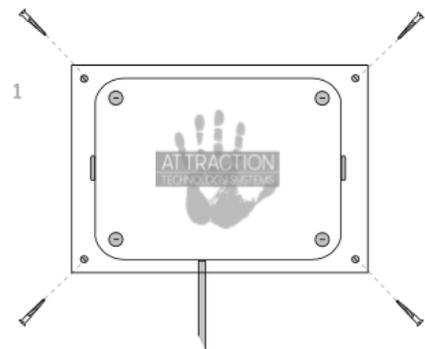
If these steps do not resolve the issue, it is likely that the SPECTRUM control box has been damaged. Please contact us at [support@attraction-technology.co.uk](mailto:support@attraction-technology.co.uk).

### 3.2 Support

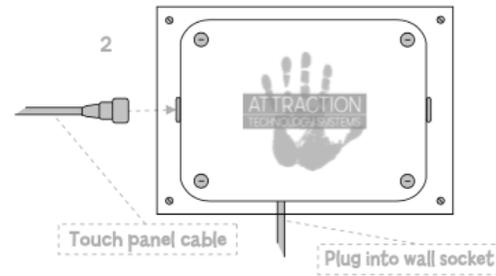
If the steps here do not rectify your problem, or if you are experiencing difficulties not listed here, please get in contact with us by e-mailing [support@attraction-technology.co.uk](mailto:support@attraction-technology.co.uk).

## 4. Appendix

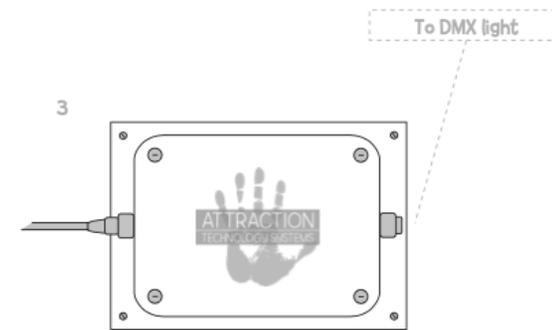
### 4.1 Installing the control panel



1  
Screw the backplate into the wall using 4 screws.

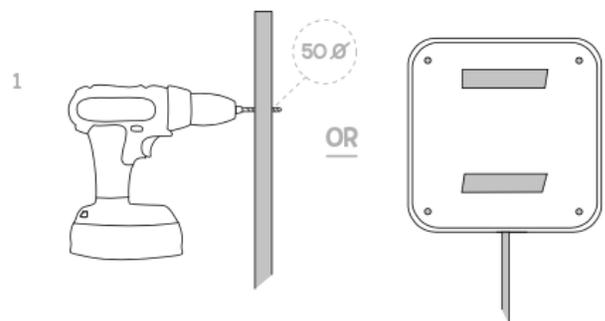


2  
Plug in the touch panel cable into the side of the control box. Then plug the control box into a wall socket.

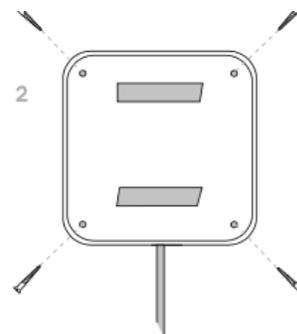


3  
Plug the DMX light into the control box.

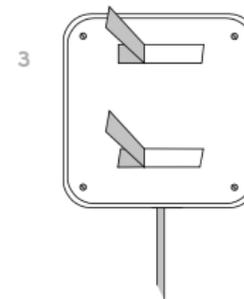
### 4.2 Installing the touch button panel



1  
To hide the external wires, drill a 50mm hole in the wall. Alternatively, to avoid drilling a hole in the wall, you could run the wire down the wall.



2  
Screw the backplate into the wall.



3  
Remove the double sided tape from the back plate.



4  
Firmly push the graphic panel onto the back plate.