

# Advanced DMX Control Options

For RCL DRX Range Luminaires

## BEFORE YOU START

Read these instructions carefully. For the latest instructions for all our products please see [www.rclighting.com/downloads](http://www.rclighting.com/downloads)

- For standard range DMX Set Up & Addressing instructions, please refer to DOC-305 "DMX Set Up & Addressing - DRX Range".
- RCL spotlights need to be converted for DMX use. This cannot be done on site and must be specified when ordering.
- RCL spotlights converted for DMX still require a third party DMX source for control. RCL's handheld remote controller is used for addressing the spotlights only.
- DMX converted lights can be controlled using RCL's lighting control system, iDirect. For more information, please see DOC-081.
- DMX systems should always be installed by a contractor who understands the requirements of the DMX standard. Before RCL spotlights are installed, it is important to test the cable and source, as indicated in this document.

Read these instructions carefully. For the latest instructions on all our products see [www.rclighting.com/downloads](http://www.rclighting.com/downloads)

These instructions cover the following installation methods:

- |                      |              |
|----------------------|--------------|
| A Channel Assignment | F Dim up     |
| B Command Modes      | G Dim Down   |
| C Addressing Mode    | H Set Timer  |
| D Scene Recall       | I Individual |
| E Scene Store        | Scene Recall |

## Important Safety Information

READ INSTRUCTIONS CAREFULLY BEFORE USING THIS PRODUCT. SAVE INSTRUCTIONS FOR LATER REFERENCE.

PRODUCT IS NOT SUITABLE FOR PHASE DIMMING

Products must be installed by a suitably qualified professional only. Installations must conform to national installation codes and accident prevention regulations.

Ensure electrical rating shown on product label conforms to mains voltage supply.

Do not modify the product in any way. RCL accepts no responsibility for damage caused by modifying this product.

Dispose of this product in accordance with WEEE or other national regulations.

If you have any difficulty installing this product please contact:

Remote Controlled Lighting Ltd (UK)  
42 Riverside Road, London SW17 0BA  
+44 (0) 20 8404 2400  
tech@rclighting.com

Remote Controlled Lighting Ltd (Asia)  
Unit 13, 8/F, Lai Sun Yuen Long Centre  
21-35 Wang Yip Street East,  
Yuen Long, Hong Kong  
+852 2310 9733

## Introduction to Advanced DMX

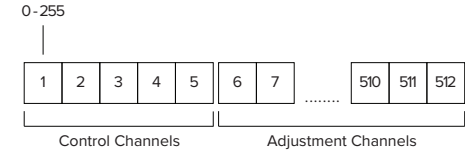
The standard DMX control options are detailed in DOC-305, however in some applications it may be desirable to make use of the spotlights internal control methodologies that can work alongside the handheld remote controller or provide control options beyond the DMX systems standard capability.

The advanced control modes detailed in this document are enabled by setting the control channels appropriately, the user may switch between modes as required by changing these values.

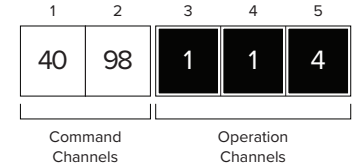
When using advanced control modes care should be taken to avoid any fading/transitioning of the control channels as this may cause undesired operations.

## DMX Channel Assignment

1 The DMX signal is made up of 512 'Channels'. Each channel can have a value between 0-255. For standard DMX setup, RCL requires the first five channels as Control Channels. The remaining channels (6-512) can be used for data.



2 For advanced operation within the control channels we make a further definition. The first two control channels are command channels, and the following three are operation channels.



## DMX Command Modes

Command Mode	Description
Addressing by DMX Mode	Addressing by the DMX controller, the address is programmed into the fixture by using the RCL handheld remote controller laser
Standard Operating Mode	The DMX controller directly controls channels of the fixture (refer to DOC-305)
Scene Recall	Global recall of the ten internal scenes
Scene Record	Global storing of the current spotlight configuration into one of the ten internal scenes
Dim Up	Global dim up, from whatever the individual fixture setting is
Dim Down	Global dim down, from whatever the individual fixture setting is
Set Dimmer	Global go to x % dimmer instruction
Individual Scene Recall	Individual fixture scene recall alongside dimmer over-ride.

## C Addressing Mode

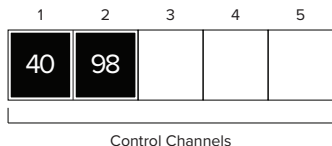


### NOTE

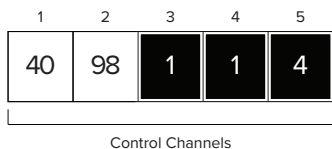
- The handheld remote controller can alternatively be used to program the Start Address, please refer to DOC-305

It's possible to assign Start Addresses using the DMX source directly.

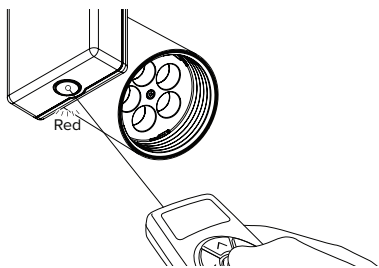
- To set a spotlight's Start Address using the DMX source, it must be set to Addressing Mode. To do this, set Channel 1 = 40 and Channel 2 = 98.



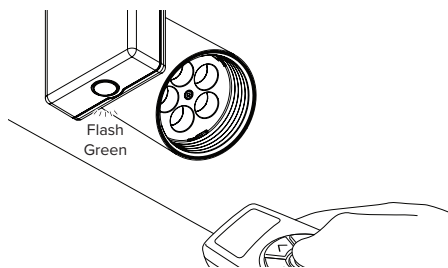
- Use the remaining three channels to set the desired Start Address. Each channel (3 – 5) represents one digit of the Address. For example, channel 114 would be:



- Holding the button, aim the controller's laser beam at the sensor of the spotlight you wish to Address. An LED on the spotlight will illuminate red to show that the light has been selected.



- To complete the process, hold the button and aim the laser away from the sensor. The LED on the spotlight will flash green to indicate that the Start Address has been received.



- Repeat steps 2 – 4 to set the appropriate Start Address for each spotlight.

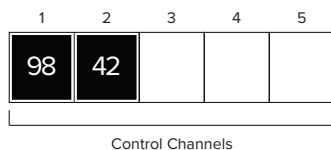


### NOTE

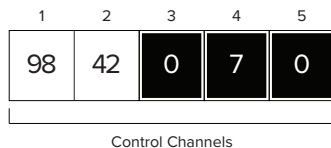
- Operating Mode is the standard control mode for DRX fixtures, refer to DOC-305 for further details.

## D Scene Recall

- To recall the spotlights internal scene using the DMX source it must be set to Scene Recall mode. To do this set channel 1 = 98, channel 2 = 42.



- Use the first two of the remaining channels to select the scene number you wish to recall, in this example we are storing the spotlights configuration into scene 7.

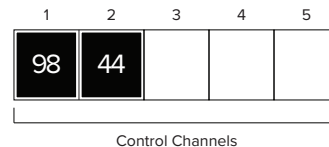


### NOTE

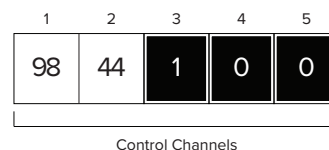
- Scenes can be programmed by handheld remote controller and recalled by DMX.
- If no scene has been programmed then no action will occur.

## E Scene Store

- To store the spotlights configuration into an internal scene using the DMX source it must be set to Scene Record mode. To do this set channel 1 = 98, channel 2 = 44.

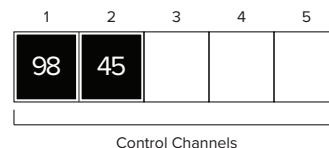


- Use the first two of the remaining channels to select the scene number you wish to store, in this example we are storing the spotlights configuration into scene 10.

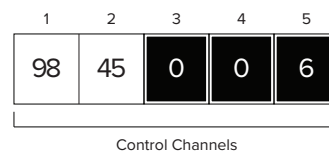


## F Dim Up

- To dim up all the spotlights set channel 1 = 98, channel 2 = 45.



- Use the last of the remaining channels to select the speed you wish the dimmer fade to occur at, in this example we are using fader rate 6.

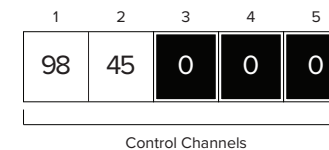


### NOTE

- The following fader rates are available:

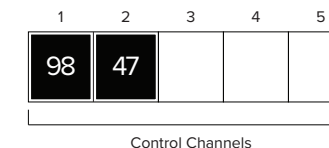
Setting	Time for fade from fully 'on' to 'off' (or reverse)
1	100 seconds
2	60 seconds
3	30 seconds
4	10 seconds
5	5 seconds
6	3 seconds
7	1 second
8	500 milliseconds
9	250 milliseconds

- Halt the fade by transmitting a fade rate of '0'

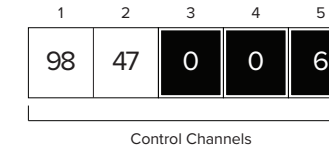


## G Dim Down

- To dim down all the spotlights set channel 1 = 98, channel 2 = 47.



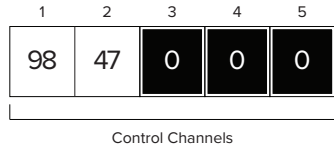
- Use the last of the remaining channels to select the speed you wish the dimmer fade to occur at, in this example we are using fader rate 6.



### NOTE

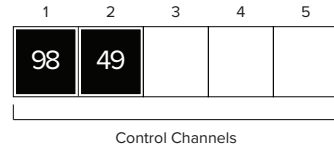
- Refer to above table for fade rates.

3 Halt the fade by transmitting a fade rate of '0'

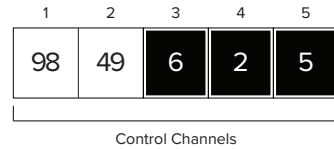


## H Set Dimmer

1 To dim all the spotlights to a desired percentage set channel 1 = 98, channel 2 = 49.



2 Use the first of the remaining channels to select the percentage dimmer level you require and the last channel to select the fader rate, in this example we wish for 62% output with fader rate 5.



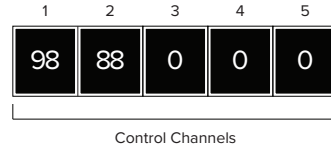
### NOTE

- Refer to "Dim Up" table for fade rates.

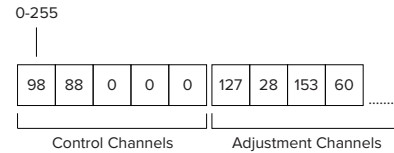
## Individual Scene Recall

Individual scene recalls allows you to command individual spotlights to recall their internal scenes, under this operating mode it is expected that the scenes have been programmed by RCL handheld remote controller.

1 To control individual fixture scene recall set channel 1 = 98, channel 2 = 88.



2 Now the adjustment channels (6-512) are used to control individual fixtures, if a fixture is addressed as channel six then the start address defines the dimmer setting and SA+1 defines the scene to recall. In this example, the first RCL spotlight is set to start address 6 and the second is set to start address 8, we set the first spotlight to level 50% (level 127) and scene 3 and the second spotlight to level 60% (level 153) and scene 7.



### NOTE

- SA refers to Start Address. For information on programming the start address using the handheld remote controller, please refer to DOC-305.

### NOTE

- Refer to this table for which scenes are actioned

DMX Value	DMX Percent (%)	Scene to action
-	0	No Action
12	5	1
20	8	2
28	11	3
36	14	4
44	17	5
52	20	6
60	23	7
68	26	8
76	30	9
84	33	10



If you have any difficulty installing this product please contact:

Remote Controlled Lighting Ltd (UK) | 42 Riverside Road, London SW17 0BA  
+44 (0) 20 8404 2400 | tech@rclighting.com

Remote Controlled Lighting Ltd (Asia) | Unit 13, 8/F, Lai Sun Yuen Long Centre |  
21-35 Wang Yip Street East, Yuen Long, Hong Kong  
+852 2310 9733