# Lighting Specification

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# About This Document

These Lighting Specifications are a detailed guide to the lighting system and facilities available at the Royal Albert Hall, London.

This is a supplementary document to be used alongside the RAH Technical Specifications. This information is meant as a guide to incoming companies and productions, but is not exhaustive so should not be used in isolation. The information is subject to change without notice.

All events coming to the Hall will be assigned a dedicated Technical Supervisor (TS) to oversee the production, please consult with them for all aspects of your technical requirements, for more information and for hire prices where applicable.

This document and more are available electronically via our website www.royalalberthall.com/about  or contact your TS.
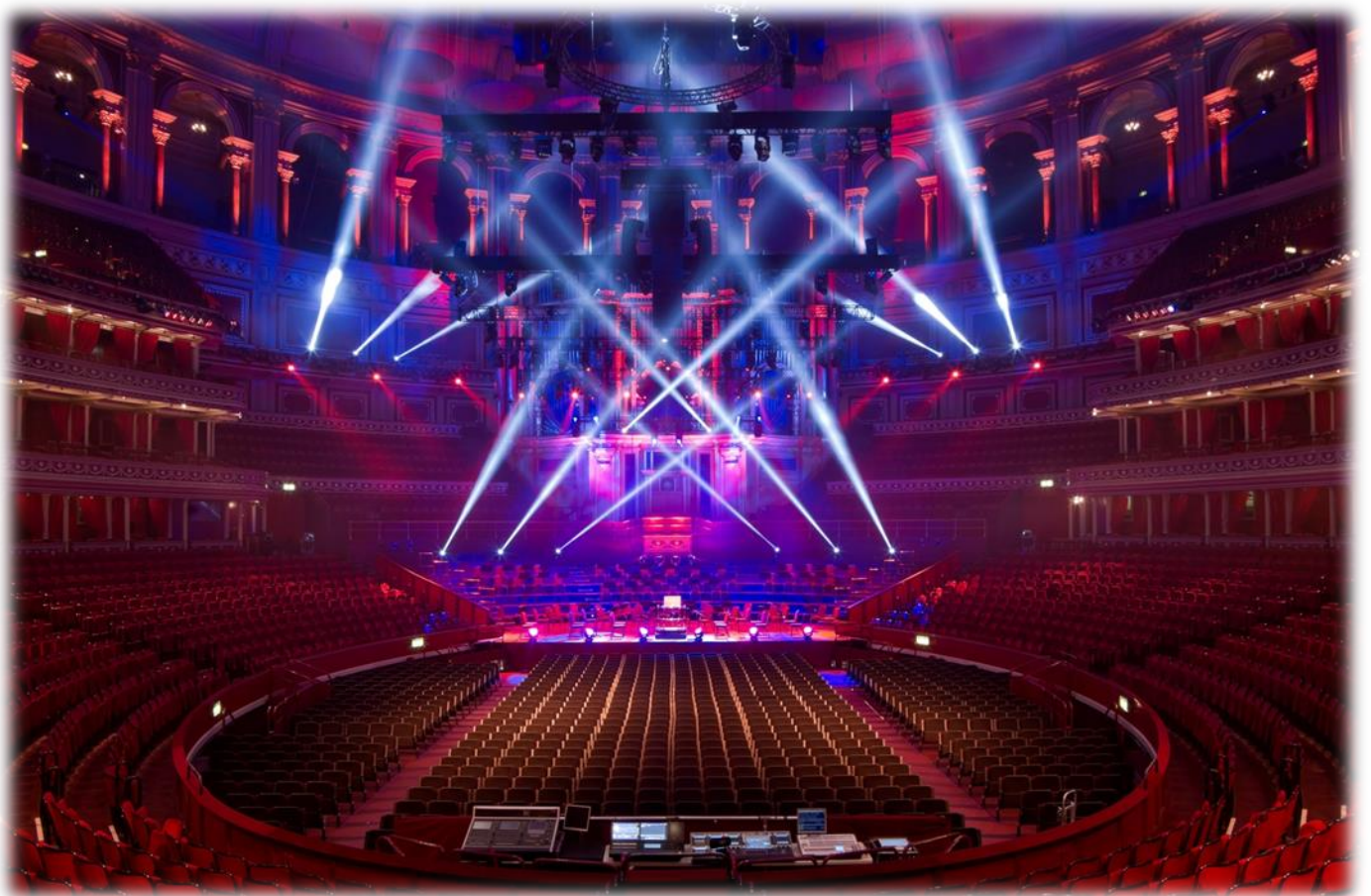


**Figure 1: The Royal Albert Hall, with production lighting**

# <u>Contents</u>

# <u>Technical Contacts</u>

| | |
|---|---|
| **Lighting Operations Manager** | Jon Vivash |
| **Lighting Designer** | Richard Thomas      020 7959 0566 |
| **Lighting Technician** | Nick Humphrey |
| **Lighting Technician** | Sam Hayes |
| **Technical Operations Manager** | *Role Vacant* |
| **Rigging Manager** | *Role Vacant* |

# Overview

The Royal Albert Hall lighting rig consists of a fixed rig of intelligent fixtures spread across 4 house trusses over-stage, and an advance truss and circular truss located in the auditorium. There is also a fixed rig of generic and intelligent fixtures spread around the Circle rail, Organ Circles and Gallery level.

# Lighting Infrastructure

## *Lighting Network*

There is a comprehensive network of CAT5 and fibre-optic runs throughout the auditorium supporting the ArtNet Protocol. These runs congregate in the Dimmer room.

Connections are located in appropriate locations within the auditorium and can be connected either directly by Ethernet or Opticonn (via in-house switch). See the following page for plan. Locations include:

- Rear Arena (2 x ArtNet)
- Loggia 18 (2 x ArtNet)
- G Stalls platform (2 x ArtNet)
- Upstage Left - back wall (2 x ArtNet)
- Upstage Right - back wall (2 x Artnet)
- Arena A Vomitory (1 x Artnet)
- RAH Control Room (ArtNet)

- Gallery Bay 1 (ArtNet)
- Gallery Tech Area - behind the organ (2 x ArtNet)
- Gallery Bay 12 (3 x ArtNet)
- Dimmer Room (ArtNet)
- Arena F Vomitory (1 x Artnet)
- Roof (ArtNet)

There is second, physically separate network running MA Net2, which is connected to the RAH Grand MA NPU in the Dimmer Room, as below:

- Rear Arena (2 x MA Net2)
- Loggia 18 (2 x MA Net2)
- RAH Control Room (1 x MA Net2)
- Upstage Centre – back wall (2 x MA Net2)

- Gallery Bay 1 (1 x MA Net2)
- Gallery Bay 12 (1 x MA Net2)
- Dimmer Room (Switch)

## *DMX*

There are patchable DMX (XLR5) tie lines throughout the auditorium, terminating in the Dimmer Room, where they can be patched to each other, or via Input or Output Nodes, and DMX splitters. An outline of their locations is below:

- Rear Arena - Input (4 x XLR5 M)
- Grand Tier 22 - Input (4 x XLR5 M)
- Gallery Bay 12 - Input (4 x XLR5 M)
- Upstage Left - back wall - Output (2 x XLR5 F)

- Grand Tier - Outputs (4 x XLR5 F)
- Circle Rail - Outputs (12 x XLR5 F)
- Gallery - Outputs (24 x XLR 5 F)

Many of these tie lines are in use for the RAH rig, so please discuss with your TS if you require use of any.

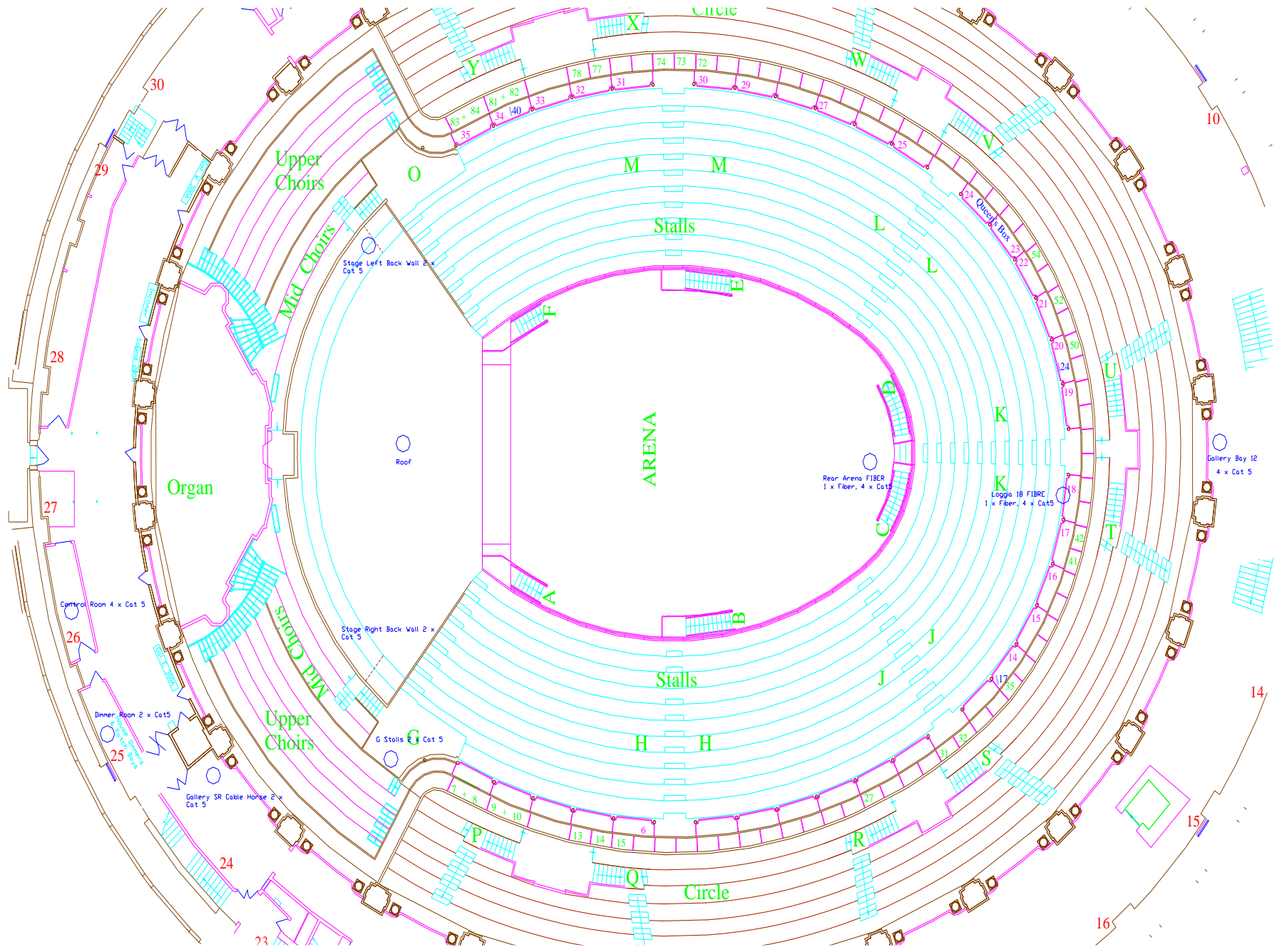More information can be found in figure 3 – Gallery Patching

*Lighting Network points*

**Figure 2: Lighting Network Points**

## *Dimming & Hard Power*

All lighting circuits within the Auditorium and on the house trusses terminate in the Dimmer room.

There are 18 circuits on Stage, available as 16A outlets with parallel Socapex outlets.
There are 140 circuits around the Circle rail, available as dual 16A outlets, with parallel Socapex outlets.
There are 100 circuits around the Gallery, some available as Socapex and some as 16A outlets. For a detailed breakdown of Gallery sockets, see Figure 3: Gallery Patching

Note that the majority of the Circle and Gallery circuits are in use for the RAH rig.

The RAH Dimmer room can supply 216 ways of dimming and 168 ways of hard power, of which there are 125 dimmers and 130 ways of hard power allocated to the fixed rig. The remainder are patchable as required.

## *House Trusses*

The house trusses are rigged with permanently installed Socapex, fed via reels in the roof, which is fixed to either Socapex or with parallel 16A breakouts. Their locations are shown Figure 4 – Truss power and data outlet locations

Many of the circuits are used by the in house rig, with only a few remaining on each truss for production use, as per below:
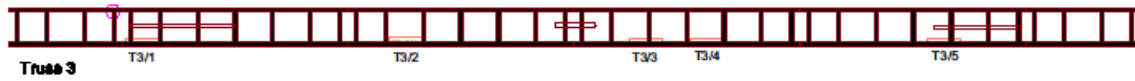
- Truss 1 – 2 Spare ways (All socas active)
- Truss 2 – 8 Spare ways (3 active socas, 1 complete free soca)
- Truss 3 – 9 Spare ways (4 active socas, 1 complete free soca)
- Truss 4 – 6 Spare ways (All socas active)
- Advance Truss – 3 spare ways (All socas active)
- Circle Truss – 8 Spare Ways (2 active socas, 1 complete free soca)

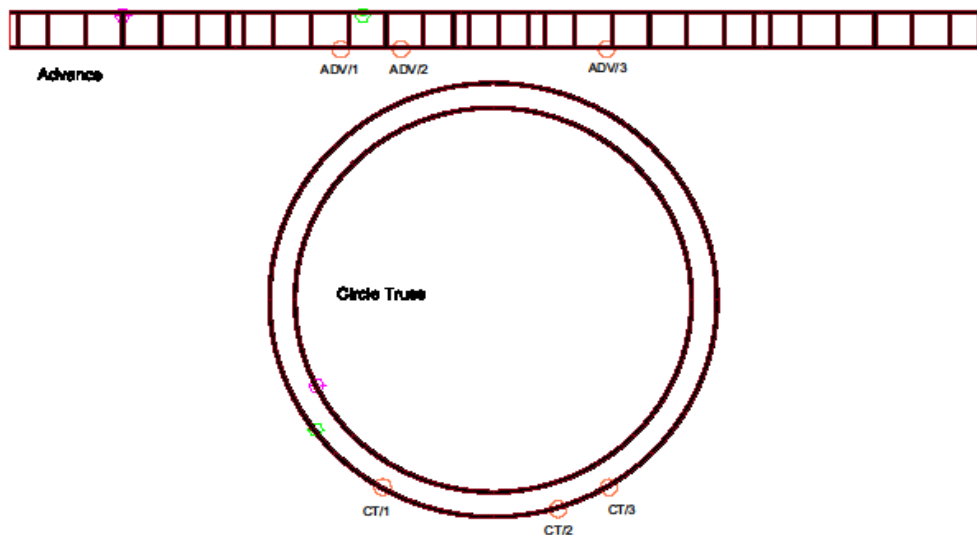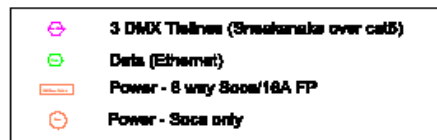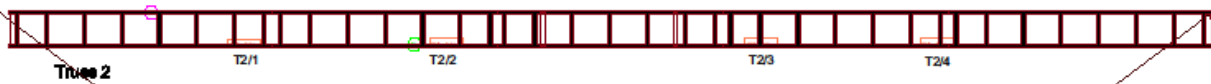| Bay no. | 32A SPN | DMX Out A | DMX Out B | Comms | Socapex | Ind A | Ind B | F circuit (paired) | 13A socket x2 |
|---|---|---|---|---|---|---|---|---|---|
|  |  | *= In Use for RAH rig | *= In Use for RAH rig |  | *= In Use for RAH rig | *= In Use for RAH rig | *= In Use for RAH rig | *= In Use for RAH rig |  |
| Door 11 30 |  |  |  | House & Visitor |  |  |  |  | ✓ |
| 1 |  | ✓ | ✓* |  | ✓ | ✓* | ✓* | ✓ | ✓ |
| 3 | 1 | ✓ | ✓* | House & Visitor | ✓* | ✓* | ✓* | ✓* | ✓ |
| 5 | 1 | ✓ | ✓* |  | ✓* | ✓ | ✓* | ✓* | ✓ |
| 7 | 1 | ✓* | ✓* | House & Visitor | ✓* | ✓* | ✓* | ✓* | ✓ |
| 9 | 1 | ✓* | ✓* |  | ✓* | ✓ | ✓* | ✓* | ✓ |
| 11 | 1 | ✓* | ✓* | House & Visitor | ✓* | ✓ | ✓* | ✓* | ✓ |
| 12 | 2 | DMX in x 4 | Network x 4 | House & Visitor |  |  |  |  |  |
| 13 | 1 | ✓ | ✓* | House & Visitor | ✓* | ✓ | ✓* | ✓* | ✓ |
| 15 | 1 | ✓ | ✓* |  | ✓* | ✓ | ✓* | ✓* | ✓ |
| 17 | 1 | ✓* | ✓* | House & Visitor | ✓* | ✓* | ✓* | ✓* | ✓ |
| 19 | 1 | ✓* | ✓* |  | ✓* | ✓ | ✓* | ✓* | ✓ |
| 21 | 1 | ✓* | ✓* | House & Visitor | ✓* | ✓* | ✓* | ✓* | ✓ |
| 23 |  | ✓ | ✓* |  | ✓ | ✓* | ✓* | ✓ | ✓ |
| Door 1 24 |  | DMX in x 4 | Network x 4 | House & Visitor |  |  |  |  | ✓ |

**Figure 3: Gallery Patching**

**Figure 4: Truss Power and Data Locations**



Lighting Truss Power and Data Locations

| | |
|---|---|
| 3 DMX Tielines (Sneakersnake over cat5) | |
| Data (Ethernet) | |
| Power - 6 way Soca/16A FP | |
| Power - Soca only | |

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# Houselights

The auditorium houselights and working lights are controlled via ETC Paradigm. The RAH will retain responsibility for their operation, including for show cues.

There are control panels in the following locations:

- Stage Right Bullrun
- Stage Left Bullrun
- Control Room Trolley
- G stalls (not for general use)
- Portable (normally rear arena, loggia 18 or gallery level behind the organ, with lighting desk)

There are 4 Houselight states: Full, Half, Rehearsal, and Off.
Where production requires a specific houselight state – such as creating a suitable 'Off' level for camera shots with some light in on auditorium boxes – the Rehearsal state can be used to create this. Your TS will take responsibility for this.
The states fade over 10 seconds – if necessary the Master Fader can be used to fade over a custom time.

# Control & Consoles

The Hall has two console options for control:
- GrandMA2 Light, with touchscreen MA OnPC with Command wing, and NPU.
- Chroma Q Vista EX, with touchscreen PC and S3 wing.

There is a permanent PC in the Control Room on the network, which can run MA or Vista software, as well as ArtNet monitoring and ELC node setup software.

For fault finding and focussing, there is an ELC Focus Hand which can control all dimmers independent of the desk.

The house rig is spread over 12 universes. (Universe 1-4 dimmers and auditorium lighting. Universes 5-11 are the over stage trusses, Universe 12 generally for floor package)

# Art-Net merging of 2 Consoles (HTP Art-Net Merge)

The rig is regularly shared between two consoles, for example if the incoming show uses the over stage trusses and want the auditorium lighting on a different desk, then the two or three desks can be merged using the ELC nodes. HTP merging for 3 inputs is enabled on all nodes.

If merging between desks is required then the incoming show should only patch the parts of the rig required by them and turn off any unused universes and the RAH will unpatch/0 value anything that the incoming show requires, that way sharing the rig as required.

# Lighting Equipment

| Qty. | Description | Notes |
|---|---|---|
| | **Moving Lights** | |
| 16 | Robe BMFL Spot* | |
| 24 | Martin Mac Ultra Performance* | |
| 12 | Martin Viper Wash DX* | |
| 36 | Robe DL7PC Wash* | |
| 24 | Robe Mega Pointe*  (8 of these floating stock) | |
| 16 | Martin Encore Performance CLD* | |
| 28 | Robe LEDbeam 350* (16 of these floating stock) | * - As part of the fixed lighting rig.  N.B. These units cannot be de-rigged or moved. |
| | **LEDs** | |
| 12 | ETC Lustr 2 Fresnel* | |
| 12 | ETC Lustr 2 14 Degree + Diffuser* | |
| 13 | Pulsar Chroma Flood 200* | Installed in the Gallery for Mushroom lighting |
| 60 | Coemar Parlite RGB* | Installed in the Gallery to up-light the pillars |
| 38 | Robe Parfect 100* | 14 Installed to light Organ, 24 installed to light roof dome |
| 18 | Chauvet Strike Array 2 LED Molefay* | |
| | **Generic Profiles** | |
| 12 | 15º-30º Source 4 zoom+ | |
| 10 | 19º Source 4 profile | |
| 6 | 10º Source 4 profile+ | |
| 9 | 5º Source 4 profile | |
| 12 | 50º Source 4 Profile+ | |
| 14 | 25º-50º Source 4 Junior zoom | |
| | **Other Generics** | |
| 96 | Source 4 Par+ | + - As part of a fixed auditorium lighting package |
| 40 | Par 64+ | |
| 12 | 2 Lamp Molefay | |
| 2 | 4 Lamp Molefay | |
| 10 | Par 64 Chrome floor cans | |
| 16 | Par 64 Chrome ACLs (4 bars of 4 pars) | |
| 10 | CCT Minuette fresnels | |
| | **Flood/House lights** | |
| 6 | Selecon Lui Cyc Flood+ | |
| 4 | 2kw Robert Juliat fresnels | |
| | **Special effects** | |
| 4 | MDG Atmosphere ATMe | |
| 2 | Unique II Hazers | |
| | **Follow Spots** | |
| 4 | 2.5kw Robert Juliat Cyrano Follow Spots(Electronic Ballast) | Available at extra cost |
| | **Lighting Consoles** | |
| 1 | Grand MA 2 Light (with NPU) | |
| 1 | Grand MA Command wing with Touchscreen PC | |
| 1 | Chroma Q Vista EX with Touchscreen PC | |
| 1 | Jands Vista S3 | |
| 1 | MA Dot 2 Core and wing (Elgar Room) | |
| | 168 ways of hard power | |
| | 216 ways of dimming | ETC Sensors (3 racks of 72 circuits) |

**Figure 5: Lighting Equipment List**

# Lighting Packages Breakdown

The Hall's lighting equipment is available for hire by incoming productions, with the rig separated into packages. The contents of each package is itemised below.

## *Open White Wash Package*

Included in Venue Hire – **when operated by RAH Personnel**
- All Robe DL7PC Washes – only static and open white and when operated by RAH
- All Encore Performances – only static and open white and when operated by RAH
- All Selecon Lui Floods
- All OW Parcans
- Source 4 Zooms

## *Overstage Truss Package*

Includes Advance Truss, Truss 1, Truss 2, Truss 3, Truss 4 and Backlight packages.
These can be supplied as separate packages if not all are required.

### Advance Truss Lighting Package

| | |
|---|---|
| 4 | Robe BMFL Spot |
| 6 | Robe DL7PC Wash |
| 5 | Martin Encore Performance CLD |

### Truss 1 Lighting Package

| | |
|---|---|
| 8 | Robe DL7PC Wash |
| 4 | Martin Encore Performance CLD |
| 4 | Chauvet Strike 2 Array LED Mole |

### Truss 2 Lighting Package

| | |
|---|---|
| 8 | Robe DL7PC Wash |
| 4 | Martin Encore Performance CLD |
| 4 | Chauvet Strike 2 Array LED Mole |

## *Auditorium Moving Lights Package*

| | |
|---|---|
| 24 | Martin Mac Ultra Performance |
| 12 | Robe LEDBeam 350 |
| 24 | ETC Source 4 Par |

## *Organ Circle/Gallery Backlight Moving Light Package*

| | |
|---|---|
| 16 | Robe Mega Pointe |
| 6 | Martin Viper Wash DX |

## *Pillar Uplighter Package*

| | |
|---|---|
| 60 | Coemar Parlite RGB |

## *Organ Package*

| | |
|---|---|
| 14 | Robe Parfect |

### Truss 3 Lighting Package

| | |
|---|---|
| 6 | Robe BMFL Spot |
| 8 | Robe DL7PC Wash |
| 3 | Martin Encore Performance CLD |
| 4 | Chauvet Strike 2 Array LED Mole |

### Truss 4 and Backlight Lighting Package

| | |
|---|---|
| 6 | Robe BMFL Spot |
| 6 | Martin Viper Wash DX |
| 6 | Robe DL7PC Wash |
| 24 | Lustr 2 Fresnel/profile (stage wash) |
| 28 | Thomas Par 64 Parcan |
| 6 | Chauvet Strike 2 Array LED Mole |
| 2 | MDG ATMe Hazers |

## *Mushroom/Roof and Audience Lighting Package*

| | |
|---|---|
| 13 | Pulsar Chromaflood 200 Tri – Mushroom Lighting |
| 24 | Robe Parfect – Roof Lighting |
| 36 | ETC Source 4 Par – Circle L134 backlighting |
| 36 | ETC Source 4 Par – Gallery L134 backlighting |

## *Floor Package*

| | |
|---|---|
| 8 | Robe Mega Pointe |
| 16 | Robe LEDbeam 350 |
| 14 | ColorDash Quad 12 Batten |
| 2 | MDG ATMe Hazers |

# Moving Lights Gobo Reference

## *Robe BMFL Spot*

**Robe BMFL** – Rotating Wheel 1

#1 

#2 

#3 

#4 

#5 

#6 
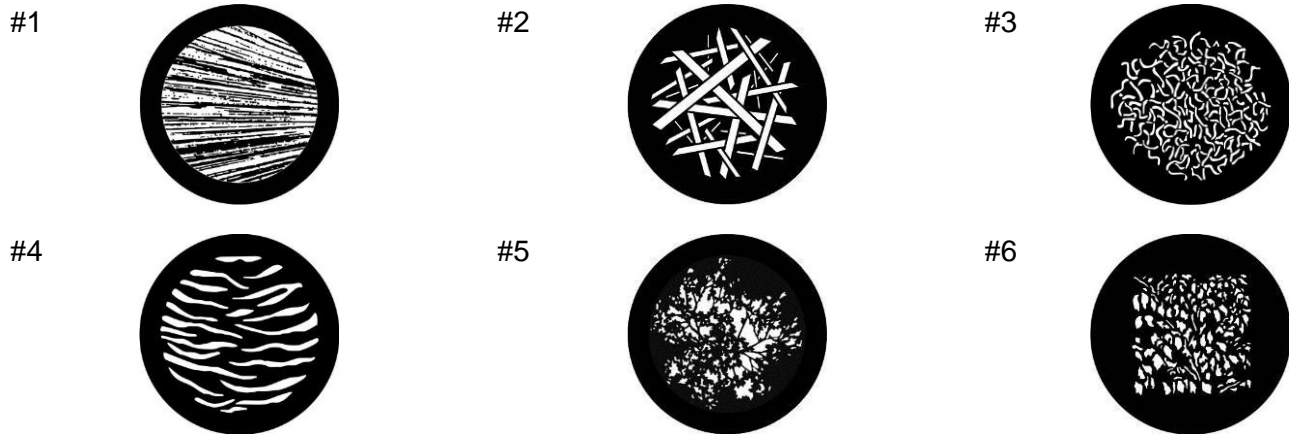
**Robe BMFL –** Rotating Wheel 2

#1 

#2 

#3 

#4 

#5 

#6 
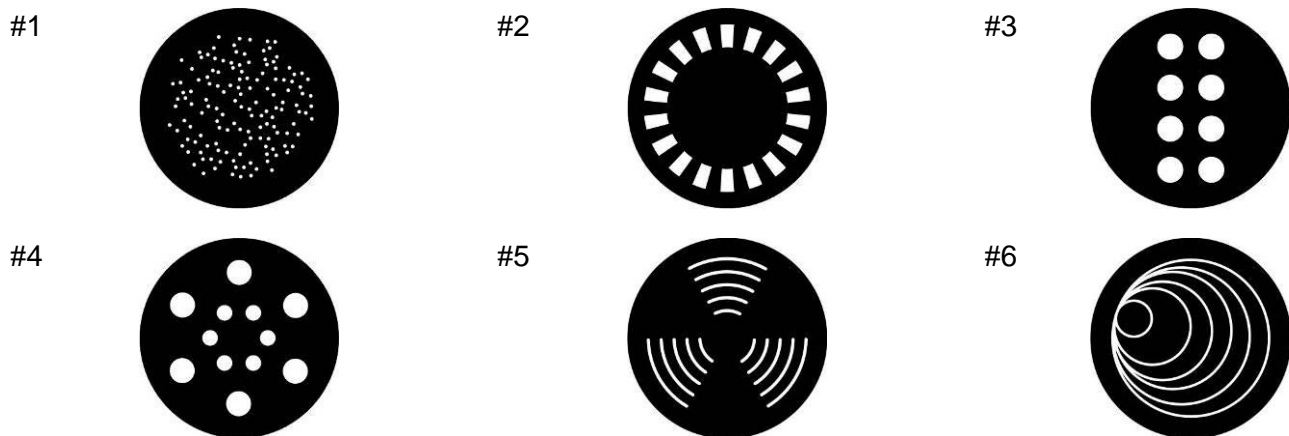
Robe BMFL – Dual Graphics Wheels

*As per Robe Website
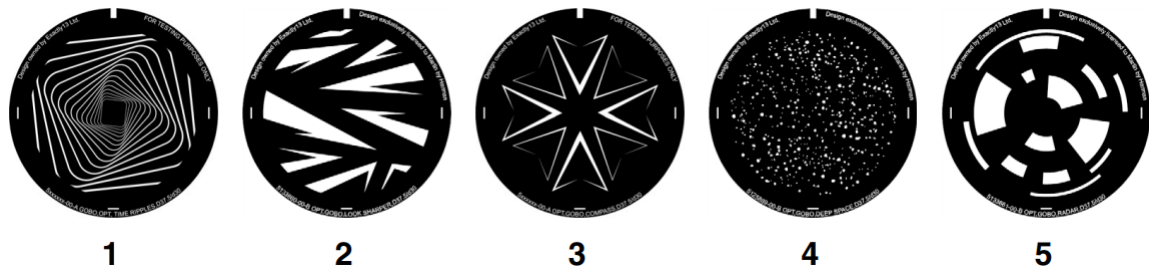
Gobo Wheel 1
#1 – Time Ripples
#2 – Look Sharper
#3 – Compass
#4 – Deep Space
#5 – Radar
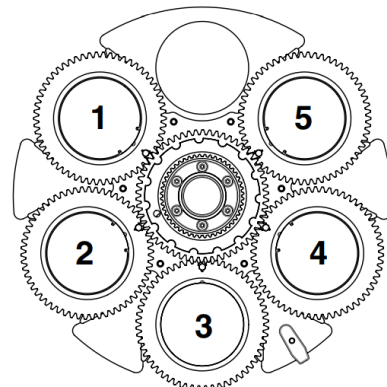
*Aerial Wheel seen from LED side*
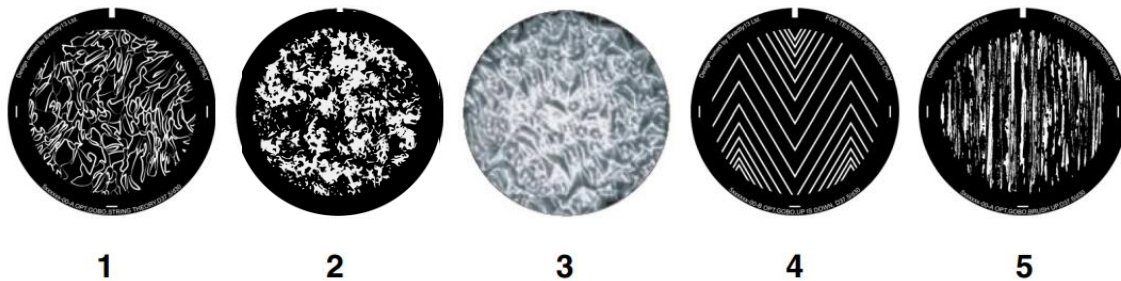


Gobo Wheel 2
#1 – String Theory
#2 – Sponge (RAH Custom)
#3 – Limbo
#4 – Up is Down
#5 – Brush Up
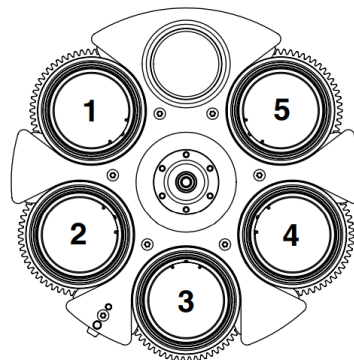
*Breakup Wheel seen from LED side*

## *Robe MegaPointe – Robe standard gobos as per Robe Website*

Mega Pointe – Rotating wheel 1

#1    #2    #3

#4    #5    #6

#7    #8    #9
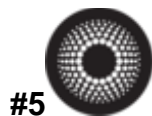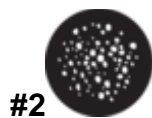
Mega Pointe – Fixed  wheel 2

#1    #2    #3    #4    #5

#6    #7    #8    #9    #10
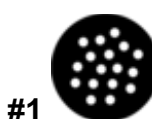
Mega Pointe – Animation Wheel
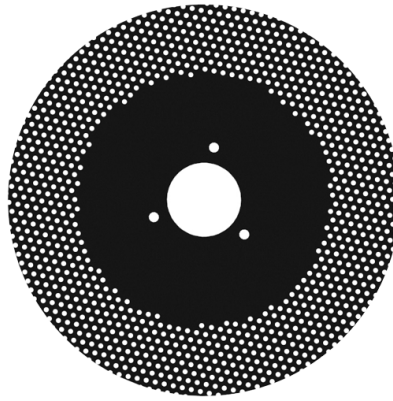


# *Martin Encore Performance CLD*

Martin Encore Performance – Rotating wheel



#1     #2     #3     #4     #5

Martin Encore Performance – Animation wheel replaced by fixed gobo wheel as shown

## DMX & Hard Power Patch List

| Unit No | DMX Patch | Unit Type | Location | Mode | HP Patch | Number |
|---|---|---|---|---|---|---|
| | | | | | | |
| 1-216 | 1.1 - 1.216 | Dimmer | | | | |
| | | | | | | |
| 221 | 6.489 | Chauvet Strike 2 Array | Truss 1 | 4 Channel | T1/1. | 5 |
| 222 | 6.493 | Chauvet Strike 2 Array | Truss 1 | 4 Channel | T1/1. | 5 |
| 223 | 6.497 | Chauvet Strike 2 Array | Truss 1 | 4 Channel | T1/1. | 5 |
| 224 | 6.501 | Chauvet Strike 2 Array | Truss 1 | 4 Channel | T1/1. | 5 |
| 225 | 7.489 | Chauvet Strike 2 Array | Truss 2 | 4 Channel | T2/2. | 1 |
| 226 | 7.493 | Chauvet Strike 2 Array | Truss 2 | 4 Channel | T2/2. | 1 |
| 227 | 7.497 | Chauvet Strike 2 Array | Truss 2 | 4 Channel | T2/2. | 1 |
| 228 | 7.501 | Chauvet Strike 2 Array | Truss 2 | 4 Channel | T2/2. | 1 |
| 229 | 8.451 | Chauvet Strike 2 Array | Truss 3 | 4 Channel | T3/2. | 6 |
| 230 | 8.455 | Chauvet Strike 2 Array | Truss 3 | 4 Channel | T3/2. | 6 |
| 231 | 8.459 | Chauvet Strike 2 Array | Truss 3 | 4 Channel | T3/2. | 6 |
| 232 | 8.463 | Chauvet Strike 2 Array | Truss 3 | 4 Channel | T3/2. | 6 |
| 233 | 2.469 | Chauvet Strike 2 Array | SR Organ Circle | 4 Channel | C | 5 |
| 234 | 2.473 | Chauvet Strike 2 Array | SR Organ Circle | 4 Channel | C | 5 |
| 235 | 2.477 | Chauvet Strike 2 Array | SR Organ Circle | 4 Channel | C | 5 |
| 236 | 2.481 | Chauvet Strike 2 Array | SL Organ Circle | 4 Channel | C | 117 |
| 237 | 2.485 | Chauvet Strike 2 Array | SL Organ Circle | 4 Channel | C | 117 |
| 238 | 2.489 | Chauvet Strike 2 Array | SL Organ Circle | 4 Channel | C | 117 |
| | | | | | | |
| 251 | 4.457 | 2 x Lustr 2 Fresnel | SR Circle end | Direct + Ints (8 channel) | C | 29 |
| 252 | 4.465 | 2 x Lustr 2 Fresnel | SR Circle end | Direct + Ints (8 channel) | C | 29 |
| 253 | 4.473 | 2 x Lustr 2 Fresnel | SR Circle end | Direct + Ints (8 channel) | C | 29 |
| 254 | 2.421 | 2 x Lustr 2 14 Degree + Diff | SR Organ Circle | Direct + Ints (8 channel) | C | 1 |
| 255 | 2.429 | 2 x Lustr 2 14 Degree + Diff | SR Organ Circle | Direct + Ints (8 channel) | C | 1 |
| 256 | 2.437 | 2 x Lustr 2 14 Degree + Diff | SR Organ Circle | Direct + Ints (8 channel) | C | 1 |
| 257 | 2.445 | 2 x Lustr 2 14 Degree + Diff | SL Organ Circle | Direct + Ints (8 channel) | C | 120 |
| 258 | 2.453 | 2 x Lustr 2 14 Degree + Diff | SL Organ Circle | Direct + Ints (8 channel) | C | 120 |
| 259 | 2.461 | 2 x Lustr 2 14 Degree + Diff | SL Organ Circle | Direct + Ints (8 channel) | C | 120 |
| 260 | 4.481 | 2 x Lustr 2 Fresnel | SL Circle end | Direct + Ints (8 channel) | C | 92 |
| 261 | 4.489 | 2 x Lustr 2 Fresnel | SL Circle end | Direct + Ints (8 channel) | C | 92 |
| 262 | 4.497 | 2 x Lustr 2 Fresnel | SL Circle end | Direct + Ints (8 channel) | C | 92 |
| | | | | | | |
| 401 | 5.1 | Robe DL7F Wash | Advance Truss | Mode 3 (42 Chan) | ADV/1. | 1 |
| 402 | 5.43 | Robe DL7F Wash | Advance Truss | Mode 3 (42 Chan) | ADV/1. | 3 |
| 403 | 5.85 | Robe DL7F Wash | Advance Truss | Mode 3 (42 Chan) | ADV/2. | 1 |

| 404 | 5.127 | Robe DL7F Wash | Advance Truss | Mode 3 (42 Chan) | ADV/2. | 5 |
|-----|-------|----------------|---------------|------------------|--------|---|
| 405 | 5.169 | Robe DL7F Wash | Advance Truss | Mode 3 (42 Chan) | ADV/3. | 3 |
| 406 | 5.211 | Robe DL7F Wash | Advance Truss | Mode 3 (42 Chan) | ADV/3. | 5 |
| 407 | 6.1 | Robe DL7F Wash | Truss 1 | Mode 3 (42 Chan) | T1/1. | 1 |
| 408 | 6.43 | Robe DL7F Wash | Truss 1 | Mode 3 (42 Chan) | T1/1. | 2 |
| 409 | 6.85 | Robe DL7F Wash | Truss 1 | Mode 3 (42 Chan) | T1/1. | 4 |
| 410 | 6.127 | Robe DL7F Wash | Truss 1 | Mode 3 (42 Chan) | T1/2. | 2 |
| 411 | 6.169 | Robe DL7F Wash | Truss 1 | Mode 3 (42 Chan) | T1/2. | 3 |
| 412 | 6.211 | Robe DL7F Wash | Truss 1 | Mode 3 (42 Chan) | T1/3. | 1 |
| 413 | 6.253 | Robe DL7F Wash | Truss 1 | Mode 3 (42 Chan) | T1/3. | 3 |
| 414 | 6.295 | Robe DL7F Wash | Truss 1 | Mode 3 (42 Chan) | T1/3. | 4 |
| 415 | 7.1 | Robe DL7F Wash | Truss 2 | Mode 3 (42 Chan) | T2/1. | 1 |
| 416 | 7.43 | Robe DL7F Wash | Truss 2 | Mode 3 (42 Chan) | T2/1. | 2 |
| 417 | 7.85 | Robe DL7F Wash | Truss 2 | Mode 3 (42 Chan) | T2/1. | 4 |
| 418 | 7.127 | Robe DL7F Wash | Truss 2 | Mode 3 (42 Chan) | T2/1. | 5 |
| 419 | 7.169 | Robe DL7F Wash | Truss 2 | Mode 3 (42 Chan) | T2/3. | 1 |
| 420 | 7.211 | Robe DL7F Wash | Truss 2 | Mode 3 (42 Chan) | T2/3. | 2 |
| 421 | 7.253 | Robe DL7F Wash | Truss 2 | Mode 3 (42 Chan) | T2/3. | 4 |
| 422 | 7.295 | Robe DL7F Wash | Truss 2 | Mode 3 (42 Chan) | T2/3. | 5 |
| 423 | 8.1 | Robe DL7F Wash | Truss 3 | Mode 3 (42 Chan) | T3/1. | 1 |
| 424 | 8.43 | Robe DL7F Wash | Truss 3 | Mode 3 (42 Chan) | T3/1. | 3 |
| 425 | 8.85 | Robe DL7F Wash | Truss 3 | Mode 3 (42 Chan) | T3/1. | 5 |
| 426 | 8.127 | Robe DL7F Wash | Truss 3 | Mode 3 (42 Chan) | T3/2. | 2 |
| 427 | 8.169 | Robe DL7F Wash | Truss 3 | Mode 3 (42 Chan) | T3/2. | 4 |
| 428 | 8.211 | Robe DL7F Wash | Truss 3 | Mode 3 (42 Chan) | T3/5. | 1 |
| 429 | 8.253 | Robe DL7F Wash | Truss 3 | Mode 3 (42 Chan) | T3/5. | 3 |
| 430 | 8.295 | Robe DL7F Wash | Truss 3 | Mode 3 (42 Chan) | T3/5. | 5 |
| 431 | 11.1 | Robe DL7F Wash | Truss 4 | Mode 3 (42 Chan) | T4/1. | 3 |
| 432 | 11.43 | Robe DL7F Wash | Truss 4 | Mode 3 (42 Chan) | T4/2. | 1 |
| 433 | 11.85 | Robe DL7F Wash | Truss 4 | Mode 3 (42 Chan) | T4/2. | 4 |
| 434 | 11.127 | Robe DL7F Wash | Truss 4 | Mode 3 (42 Chan) | T4/3. | 1 |
| 435 | 11.169 | Robe DL7F Wash | Truss 4 | Mode 3 (42 Chan) | T4/3. | 4 |
| 436 | 11.211 | Robe DL7F Wash | Truss 4 | Mode 3 (42 Chan) | T4/4. | 3 |
| | | | | | | |
| 501 | 2.109 | Robe Mega Pointe | Organ Circle SR | Mode 1 | IND | 3 |
| 502 | 2.148 | Robe Mega Pointe | Organ Circle SR | Mode 1 | IND | 2 |
| 503 | 2.187 | Robe Mega Pointe | Organ Circle SR | Mode 1 | C | 4 |
| 504 | 2.226 | Robe Mega Pointe | Organ Circle SR | Mode 1 | IND | 1 |
| 505 | 2.265 | Robe Mega Pointe | Organ Circle SL | Mode 1 | IND | 20 |
| 506 | 2.304 | Robe Mega Pointe | Organ Circle SL | Mode 1 | C | 117 |
| 507 | 2.343 | Robe Mega Pointe | Organ Circle SL | Mode 1 | IND | 19 |
| 508 | 2.382 | Robe Mega Pointe | Organ Circle SL | Mode 1 | IND | 18 |
| | | | | | | |
| 509 | 12.1 | Robe Mega Pointe | Gallery Bay 23 | Mode 1 | I 23 | A |
| 510 | 12.40 | Robe Mega Pointe | Gallery Bay 23 | Mode 1 | I 23 | A |
| 511 | 12.79 | Robe Mega Pointe | Gallery Bay 24 | Mode 1 | I 23 | B |
| 512 | 12.118 | Robe Mega Pointe | Gallery Bay 24 | Mode 1 | I 23 | B |
| 513 | 12.157 | Robe Mega Pointe | Gallery Bay 30 | Mode 1 | I 1 | B |
| 514 | 12.196 | Robe Mega Pointe | Gallery Bay 30 | Mode 1 | I 1 | B |
| 515 | 12.235 | Robe Mega Pointe | Gallery Bay 1 | Mode 1 | I 1 | A |
| 516 | 12.274 | Robe Mega Pointe | Gallery Bay 1 | Mode 1 | I 1 | A |
| | | | | | | |
| 601 | 5.253 | Robe BMFL Spot | Advance Truss | Mode 1 | ADV/1. | 4 |
| 602 | 5.294 | Robe BMFL Spot | Advance Truss | Mode 1 | ADV/2. | 2 |

| 603 | 5.335 | Robe BMFL Spot | Advance Truss | Mode 1 | ADV/2. | 4 |
| 604 | 5.376 | Robe BMFL Spot | Advance Truss | Mode 1 | ADV/3. | 2 |
| 605 | 9.1 | Robe BMFL Spot | Truss 3 | Mode 1 | T3/1. | 2 |
| 606 | 9.42 | Robe BMFL Spot | Truss 3 | Mode 1 | T3/1. | 4 |
| 607 | 9.83 | Robe BMFL Spot | Truss 3 | Mode 1 | T3/2. | 1 |
| 608 | 9.124 | Robe BMFL Spot | Truss 3 | Mode 1 | T3/2. | 5 |
| 609 | 9.165 | Robe BMFL Spot | Truss 3 | Mode 1 | T3/5. | 2 |
| 610 | 9.206 | Robe BMFL Spot | Truss 3 | Mode 1 | T3/5. | 4 |
| 611 | 10.1 | Robe BMFL Spot | Truss 4 | Mode 1 | T4/1. | 2 |
| 612 | 10.42 | Robe BMFL Spot | Truss 4 | Mode 1 | T4/1. | 5 |
| 613 | 10.83 | Robe BMFL Spot | Truss 4 | Mode 1 | T4/2. | 3 |
| 614 | 10.124 | Robe BMFL Spot | Truss 4 | Mode 1 | T4/3. | 2 |
| 615 | 10.165 | Robe BMFL Spot | Truss 4 | Mode 1 | T4/4. | 1 |
| 616 | 10.206 | Robe BMFL Spot | Truss 4 | Mode 1 | T4/4. | 4 |
| | | | | | | |
| 701 | 9.247 | Martin Encore Perf CLD | Advance Truss | | ADV/1. | 2 |
| 702 | 9.285 | Martin Encore Perf CLD | Advance Truss | | ADV/1. | 5 |
| 703 | 9.323 | Martin Encore Perf CLD | Advance Truss | | ADV/2. | 3 |
| 704 | 9.361 | Martin Encore Perf CLD | Advance Truss | | ADV/3. | 1 |
| 705 | 9.399 | Martin Encore Perf CLD | Advance Truss | | ADV/3. | 4 |
| 706 | 6.337 | Martin Encore Perf CLD | Truss 1 | | T1/1. | 3 |
| 707 | 6.375 | Martin Encore Perf CLD | Truss 1 | | T1/2. | 1 |
| 708 | 6.413 | Martin Encore Perf CLD | Truss 1 | | T1/2. | 4 |
| 709 | 6.451 | Martin Encore Perf CLD | Truss 1 | | T1/3. | 2 |
| 710 | 7.337 | Martin Encore Perf CLD | Truss 2 | | T2/1. | 3 |
| 711 | 7.375 | Martin Encore Perf CLD | Truss 2 | | T2/1. | 5 |
| 712 | 7.413 | Martin Encore Perf CLD | Truss 2 | | T2/4. | 2 |
| 713 | 7.451 | Martin Encore Perf CLD | Truss 2 | | T2/4. | 4 |
| 714 | 8.337 | Martin Encore Perf CLD | Truss 3 | | T3/1. | 1 |
| 715 | 8.375 | Martin Encore Perf CLD | Truss 3 | | T3/2. | 3 |
| 716 | 8.413 | Martin Encore Perf CLD | Truss 3 | | T3/5. | 6 |
| | | | | | | |
| 801 | 10.247 | Martin Viper Wash DX | Truss 4 | 16Bit | T4/1. | 1 |
| 802 | 10.265 | Martin Viper Wash DX | Truss 4 | 16Bit | T4/1. | 4 |
| 803 | 10.283 | Martin Viper Wash DX | Truss 4 | 16Bit | T4/2. | 2 |
| 804 | 10.301 | Martin Viper Wash DX | Truss 4 | 16Bit | T4/3. | 3 |
| 805 | 10.319 | Martin Viper Wash DX | Truss 4 | 16Bit | T4/4. | 2 |
| 806 | 10.337 | Martin Viper Wash DX | Truss 4 | 16Bit | T4/4. | 5 |
| | | | | | | |
| 807 | 2.1 | Martin Viper Wash DX | Organ Circle SR | 16Bit | C | 14 |
| 808 | 2.19 | Martin Viper Wash DX | Organ Circle SR | 16Bit | C | 9 |
| 809 | 2.37 | Martin Viper Wash DX | Organ Circle SR | 16Bit | C | 3 |
| 810 | 2.55 | Martin Viper Wash DX | Organ Circle SL | 16Bit | C | 118 |
| 811 | 2.73 | Martin Viper Wash DX | Organ Circle SL | 16Bit | C | 113 |
| 812 | 2.91 | Martin Viper Wash DX | Organ Circle SL | 16Bit | C | 107 |
| | | | | | | |
| 813 | 4.193 | Robe LEDBeam 350 | Circular Truss | Mode 1 | CT/1. | 1 |
| 814 | 4.215 | Robe LEDBeam 350 | Circular Truss | Mode 1 | CT/1. | 1 |
| 815 | 4.237 | Robe LEDBeam 350 | Circular Truss | Mode 1 | CT/1. | 2 |
| 816 | 4.259 | Robe LEDBeam 350 | Circular Truss | Mode 1 | CT/1. | 2 |
| 817 | 4.281 | Robe LEDBeam 350 | Circular Truss | Mode 1 | CT/1. | 3 |
| 818 | 4.303 | Robe LEDBeam 350 | Circular Truss | Mode 1 | CT/1. | 3 |
| 819 | 4.325 | Robe LEDBeam 350 | Circular Truss | Mode 1 | CT/1. | 4 |
| 820 | 4.347 | Robe LEDBeam 350 | Circular Truss | Mode 1 | CT/1. | 4 |

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| 821 | 4.369 | Robe LEDBeam 350 | Circular Truss | Mode 1 | | CT/1. | 5 |
|---|---|---|---|---|---|---|---|
| 822 | 4.391 | Robe LEDBeam 350 | Circular Truss | Mode 1 | | CT/1. | 5 |
| 823 | 4.413 | Robe LEDBeam 350 | Circular Truss | Mode 1 | | CT/1. | 6 |
| 824 | 4.435 | Robe LEDBeam 350 | Circular Truss | Mode 1 | | CT/1. | 6 |
| | | | | | | | |
| 901 | 3.1 | Mac Ultra Performance | Circle Rail | 48 Channel | | IND | 5 |
| 902 | 3.49 | Mac Ultra Performance | Circle Rail | 48 Channel | | IND | 6 |
| 903 | 3.97 | Mac Ultra Performance | Circle Rail | 48 Channel | | IND | 7 |
| 904 | 3.145 | Mac Ultra Performance | Circle Rail | 48 Channel | | IND | 8 |
| 905 | 3.193 | Mac Ultra Performance | Circle Rail | 48 Channel | | IND | 9 |
| 906 | 3.241 | Mac Ultra Performance | Circle Rail | 48 Channel | | IND | 12 |
| 907 | 3.289 | Mac Ultra Performance | Circle Rail | 48 Channel | | IND | 13 |
| 908 | 3.337 | Mac Ultra Performance | Circle Rail | 48 Channel | | IND | 14 |
| 909 | 3.385 | Mac Ultra Performance | Circle Rail | 48 Channel | | IND | 15 |
| 910 | 3.433 | Mac Ultra Performance | Circle Rail | 48 Channel | | IND | 16 |
| | | | | | | | |
| 911 | 13.1 | Mac Ultra Performance | Gallery Bay 22 | 48 Channel | | I21 | B |
| 912 | 13.49 | Mac Ultra Performance | Gallery Bay 20 | 48 Channel | | I19 | B |
| 913 | 13.97 | Mac Ultra Performance | Gallery Bay 18 | 48 Channel | | I17 | B |
| 914 | 13.145 | Mac Ultra Performance | Gallery Bay 16 | 48 Channel | | I15 | B |
| 915 | 13.193 | Mac Ultra Performance | Gallery Bay 14 | 48 Channel | | I13 | B |
| 916 | 13.241 | Mac Ultra Performance | Gallery Bay 10 | 48 Channel | | I11 | B |
| 917 | 13.289 | Mac Ultra Performance | Gallery Bay 8 | 48 Channel | | I9 | B |
| 918 | 13.337 | Mac Ultra Performance | Gallery Bay 6 | 48 Channel | | I7 | B |
| 919 | 13.385 | Mac Ultra Performance | Gallery Bay 4 | 48 Channel | | I5 | B |
| 920 | 13.433 | Mac Ultra Performance | Gallery Bay 2 | 48 Channel | | I3 | B |
| | | | | | | | |
| 921 | 4.1 | Mac Ultra Performance | Circular Truss | 48 Channel | | CT/2. | 1 |
| 922 | 4.49 | Mac Ultra Performance | Circular Truss | 48 Channel | | CT/2. | 2 |
| 923 | 4.97 | Mac Ultra Performance | Circular Truss | 48 Channel | | CT/2. | 3 |
| 924 | 4.145 | Mac Ultra Performance | Circular Truss | 48 Channel | | CT/2. | 4 |
| | | | | | | | |
| 301 | 15.1 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 302 | 15.23 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 303 | 15.45 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 304 | 15.67 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 305 | 15.89 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 306 | 15.111 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 307 | 15.133 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 308 | 15.155 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 309 | 15.177 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 310 | 15.199 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 311 | 15.221 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 312 | 15.243 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 313 | 15.265 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 314 | 15.287 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 315 | 15.309 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| 316 | 15.331 | Robe LEDbeam 350 | Floating Stage | Mode 1 | | | |
| | | | | | | | |
| 517 | 14.1 | Robe MegaPointe | Floating Stage | Mode 1 | | | |
| 518 | 14.40 | Robe MegaPointe | Floating Stage | Mode 1 | | | |
| 519 | 14.79 | Robe MegaPointe | Floating Stage | Mode 1 | | | |
| 520 | 14.118 | Robe MegaPointe | Floating | Mode 1 | | | |

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| | | | Stage | | | |
|---|---|---|---|---|---|---|
| 521 | 14.157 | Robe MegaPointe | Floating Stage | Mode 1 | | |
| 522 | 14.196 | Robe MegaPointe | Floating Stage | Mode 1 | | |
| 523 | 14.235 | Robe MegaPointe | Floating Stage | Mode 1 | | |
| 524 | 14.274 | Robe MegaPointe | Floating Stage | Mode 1 | | |
| | | | | | | |
| 1001 | 1.217 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I9 | A |
| 1002 | 1.220 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I9 | A |
| 1003 | 1.223 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I9 | A |
| 1004 | 1.226 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I9 | A |
| 1005 | 1.229 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I9 | A |
| 1006 | 1.232 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I9 | A |
| 1007 | 1.235 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I5 | A |
| 1008 | 1.238 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I5 | A |
| 1009 | 1.241 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I5 | A |
| 1010 | 1.244 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I5 | A |
| 1011 | 1.247 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I5 | A |
| 1012 | 1.250 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I5 | A |
| 1013 | 1.253 | Chroma Flood 200 | Gallery Floor | 3 Channel RGB | I5 | A |
| | | | | | | |
| | Start 1.256 - 1.433 | RGB Par Pillar x 60 units | Bays 1 - 30 | 3 Channel RGB | | |
| | | | | | | |
| | 1.436 | RGBW Pars Organ Pipes | Organ Circle SR | 4 Channel RGBW | IND | 4 |
| | 1.440 | RGBW Pars Organ Pipes | Organ Circle SL | 4 Channel RGBW | IND | 4 |
| | 1.444 | RGBW Pars Organ Wood | Organ Circle SR | 4 Channel RGBW | IND | 17 |
| | 1.448 | RGBW Pars Organ Wood | Organ Circle SL | 4 Channel RGBW | IND | 17 |
| | | | | | | |
| | 1.464 | RGBW Birdies Uplight Pipes | Organ Plinthes | 4 Channel RGBW | | |
| | | | | | | |
| | 1.452 | RGBW Pars on Roof | Gallery | 4 Channel RGBW | | |
| | 1.456 | RGBW Pars on Roof | Gallery | 4 Channel RGBW | | |
| | 1.460 | RGBW Pars on Roof | Gallery | 4 Channel RGBW | | |
| | | | | | | |
| | 14.501 | 2 x MDG ATMe | Stage | 3 channel | | |
| | 2.501 | 2 x MDG ATMe | Circle Stage End | 3 channel | | |

# Royal Albert Hall Dimmer/Address Cheat Sheet

**\*\*All Dimmers and LEDs listed below are on Universe 1\*\*** (Lustrs on universe 2+4)

## Circle Audience (L134)
(Amber backlight wash of stalls and arena)
166-168
172-174
178-180
181-183
187-189
193-195

## Roof - LEDs
(RGBW wash of roof metal dome)
24 RGBW LEDs in total
1.452
1.456
1.460

## Red Par B/L wash of stage
(12 Par 64s backlighting stage)
145-150

## Circle 10 Degrees
(6 Source 4 10 degrees for specials on circle rail)
13-18

## Lustr 2 Profile B/L wash of stage
(12 Lustr 2 14 degrees c/w diffuser backlighting stage)
Direct mode 7 colours plus dimmer (8 channels)
Unit# 254-256 + 257-259

## Choir B/L Floods (O/W)
(6 Floods on Organ Circle to downlight Choir seats)
37-42

## Gallery Audience (L134)
(Amber backlight wash of circle)
73-108

## O/W Par wash of Arena
(O/W wash of arena floor)
169-171
175-177
184-186
190-192

## Truss Strike 2 LED Mole Fays (2 Lites)
See Patch sheet

## Organ Wash - LEDs
(4 sets of RGBW LEDs on woodwork and pipes)
1.436 + 1.440 Pipes
1.444 + 1.448 Woodwork
1.464 – LED Birdies Uplight Pipes

## Gallery 5 Degrees
(2 pairs of Source 4 5 degrees for stage front fill)
11+12

## Lustr 2 Fresnel side wash of stage
(12 Lustr 2 fresnels side wash of stage)
Direct mode 7 colours plus dimmer (8 channels)
Unit# 251-253 + 260-262

## Circle Source 4 Zooms + 19 Degrees
(8 Source 4 15/30s for specials on circle rail)
206-214 – Zooms
196+197 – 19 Degrees