

Orbiter®

RDM Command Specification V1.0

LIGHTING - TECHNICAL INFORMATION

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Revision History

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| 13.10.2020 | - | - | First Release | PM-SW |

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**Manufacturer Identification**

| Identification | Data Hex | Description |
|-----------------|----------|--|
| Manufacturer ID | 0x20B9 | Manufacturer identification number (ARRI Lighting) |

Model Identification

| Identification | Data Hex | Description |
|----------------|----------|---------------------------------------|
| Model ID | 0x0301 | Model identification number (Orbiter) |

DMX Personality Identification

| Identification | Data Hex | Description [Decimal Data: Mode Description (Footprint)] |
|----------------------------|----------|--|
| Personality Description 1 | 0x01 | 01: CCT & RGBACL 8 Bit (Footprint 17) |
| Personality Description 2 | 0x02 | 02: CCT 8 Bit (Footprint 7) |
| Personality Description 3 | 0x03 | 03: CCT & HSI 8 Bit (Footprint 10) |
| Personality Description 4 | 0x04 | 04: RGBACL 8 Bit (Footprint 14) |
| Personality Description 5 | 0x05 | 05: HSI 8 Bit (Footprint 7) |
| Personality Description 6 | 0x06 | 06: CCT & RGBACL 16 Bit (Footprint 30) |
| Personality Description 7 | 0x07 | 07: CCT 16 Bit (Footprint 10) |
| Personality Description 8 | 0x08 | 08: CCT & HSI 16 Bit (Footprint 16) |
| Personality Description 9 | 0x09 | 09: RGBACL 16 Bit (Footprint 24) |
| Personality Description 10 | 0x0A | 10: HSI 16 Bit (Footprint 10) |
| Personality Description 11 | 0x0B | 11: Gel Selection 8 Bit (Footprint 10) |
| Personality Description 12 | 0x0C | 12: Gel Selection 16 Bit (Footprint 12) |
| Personality Description 13 | 0x0D | 13: x,y Coordinates 8 Bit (Footprint 7) |
| Personality Description 14 | 0x0E | 14: x,y Coordinates 16 Bit (Footprint 10) |
| Personality Description 15 | 0x0F | 15: Source Matching 8 Bit (Footprint 7) |
| Personality Description 16 | 0x10 | 16: Source Matching 16 Bit (Footprint 8) |
| Personality Description 17 | 0x11 | 17: Lighting Effects 8 Bit (Footprint 14) |
| Personality Description 18 | 0x12 | 18: Lighting Effects 16 Bit (Footprint 23) |
| Personality Description 19 | 0x13 | 19: Ultimate Mode 8 Bit (Footprint 26) |
| Personality Description 20 | 0x14 | 20: Ultimate Mode 16 Bit (Footprint 46) |

Note: Number in hex → String, channel count

Network Management

| Command | PID | Description |
|--------------------|--------|---|
| DISC UNIQUE BRANCH | 0x0001 | Search RDM devices |
| DISC MUTE | 0x0002 | (S) Mute RDM device to avoid a response message |
| DISC UN MUTE | 0x0003 | (S) Activate RDM device for response message |

Status Collection

| Command | PID | Description |
|-----------------------|--------|--|
| COMMS STATUS | 0x0015 | (G S) Collects the information about the integrity of the communication system |
| QUEUED MESSAGE | 0x0020 | (G) Retrieves queued messages or a status message if no message is in queue |
| STATUS MESSAGES | 0x0030 | (G) Retrieves current Warning/Error messages |
| STATUS ID DESCRIPTION | 0x0031 | (G) Retrieves description of each Warning/Error/Status message |
| CLEAR STATUS ID | 0x0032 | (S) Clear the status message queue |

RDM Information

| Command | PID | Description |
|-----------------------|--------|--|
| SUPPORTED PARAMETERS | 0x0050 | (G) Retrieves a list of all supported RDM commands |
| PARAMETER DESCRIPTION | 0x0051 | (G) Retrieves a list of all non-standard RDM commands (manufacturer commands >= 0x8000) and their parameters |

**Product Information**

| Command | PID | Description |
|-----------------------------|--------|--|
| DEVICE INFO | 0x0060 | (G) Retrieves a variety of information about the device that is normally required by a controller |
| PRODUCT DETAIL ID LIST | 0x0070 | (G) Requests technology details for a device |
| DEVICE MODEL DESCRIPTION | 0x0080 | (G) Text description of up to 32 characters for the device model type |
| MANUFACTURER LABEL | 0x0081 | (G) This parameter provides an ASCII text response with the manufacturer name for the device "ARRI Lighting" is the default name |
| DEVICE LABEL | 0x0082 | (G S) Supports the setting a descriptive label for each device It may be used for identifying a dimmer rack number or specifying the devices location |
| FACTORY DEFAULTS | 0x0090 | (G S) Set the device to its factory defaults Get: Check if settings still in default state → 1 if default |
| SOFTWARE VERSION LABEL | 0x00C0 | (G) Retrieves software version string of main software |
| BOOT SOFTWARE VERSION ID | 0x00C1 | (G) Retrieves primary boot software version |
| BOOT SOFTWARE VERSION LABEL | 0x00C2 | (G) Retrieves details about primary bootloader |

DMX512 Setup

| Command | PID | Description |
|-----------------------------|--------|--|
| DMX PERSONALITY | 0x00E0 | (G S) Retrieve or set DMX mode |
| DMX PERSONALITY DESCRIPTION | 0x00E1 | (G) Shows a description of a DMX-Mode, max 32 characters Shows exactly the description used in ALSM |
| DMX START ADDRESS | 0x00F0 | (G S) Retrieve or set DMX address |
| SLOT INFO | 0x0120 | (G) Retrieves the description from each DMX slot of the recent DMX mode |
| SLOT DESCRIPTION | 0x0121 | (G) Retrieves the description with max. 32 characters for each DMX slot of the recent DMX mode |
| DEFAULT SLOT VALUE | 0x0122 | (G) Retrieves the default DMX value for each DMX slot of the recent DMX mode |

Sensors 0x02xx

| Command | PID | Description |
|-------------------|--------|---|
| SENSOR DEFINITION | 0x0200 | (G) Retrieves the definition of a specific sensor |
| SENSOR VALUE | 0x0201 | (G) Retrieves or resets sensor data |

Dimmer Settings 0x03xx

| Command | PID | Description |
|-------------------|--------|---|
| CURVE | 0x0343 | (G S) Retrieve or set a dimmer curve Exponential = 1 Linear = 2 Logarithmic = 3 "S" Curve = 4 |
| CURVE DESCRIPTION | 0x0344 | (G) Retrieves the description of a dimmer curve (0x0343 → CURVE) 1 → Exponential 2 → Linear 3 → Logarithmic 4 → "S" Curve |

Power / Lamp Settings 0x04xx

| Command | PID | Description |
|---------------------|--------|---|
| DEVICE HOURS | 0x0400 | (G) Retrieves the number of hours of operation the device has been in use |
| LAMP HOURS | 0x0401 | (G) Retrieves the number of lamp hours |
| LAMP STRIKES | 0x0402 | (G) Retrieves the number of lamp strikes |
| LAMP STATE | 0x0403 | (G) Retrieves the current operating state of the lamp |
| LAMP ON MODE | 0x0404 | (G) Retrieves the current Lamp On Mode Lamp On Mode defines the conditions under which a lamp will be struck |
| DEVICE POWER CYCLES | 0x0405 | (G) Retrieves the number of power cycles of a device |

Display Settings 0x05xx

| Command | PID | Description |
|----------------|--------|---|
| DISPLAY INVERT | 0x0500 | (G S) Retrieve or change the display invert setting |
| DISPLAY LEVEL | 0x0501 | (G S) Retrieve or change the display contrast |


Configuration 0x06xx

| Command | PID | Description |
|-----------------|--------|---|
| REAL TIME CLOCK | 0x0603 | (G S) Retrieve the value or set the real time clock (Year, Month, Day, Hour, Minute) Note: After a power cycle, the device' clock is reset |

Control 0x10xx

| Command | PID | Description |
|-----------------|--------|--|
| IDENTIFY DEVICE | 0x1000 | (G S) Identify device Off = 0 On = 1 |

RDMnet Management 0x07xx

| Command | PID | Description |
|----------------------------------|--------|--|
| LIST INTERFACES | 0x0700 | (G) Retrieves a packed list of network interface descriptors, representing the IPv4 network interfaces on the device |
| INTERFACE LABEL | 0x0701 | (G) Retrieves the label for a network interface |
| INTERFACE HARDWARE ADDRESS TYPE1 | 0x0702 | (G) Retrieves the EUI-48 (EU) hardware address of an interface |
| IPV4 DHCP MODE | 0x0703 | (G S) Retrieve or set the Dynamic Host Configuration Protocol (DHCPv4) mode for an interface |
| LIPV4 ZEROCONF MODE | 0x0704 | (G S) Retrieve or set Zeroconf Mode (Bonjour) |
| IPV4 CURRENT ADDRESS | 0x0705 | (G S) Retrieve or set the current IPv4 address and netmask information for an interface |
| IPV4 STATIC ADDRESS | 0x0706 | (G S) Retrieve or set static configuration of the IPv4 address and network mask on an interface |
| INTERFACE APPLY CONFIGURATION | 0x0709 | (S) Set/apply any changes of the interface configuration |
| IPV4 DEFAULT ROUTE | 0x070A | (G S) Retrieve or set the default IPv4 route for a device |
| DNS IPV4 NAME SERVER | 0x070B | (G S) Retrieve or set the IPv4 DNS name servers for a device Up to three IPv4 name servers may be configured |
| DNS HOSTNAME | 0x070C | (G) Retrieves host name |
| DNS DOMAIN NAME | 0x070D | (G S) Retrieve or set domain name |

Manufacturer Commands 0x8xxx

| Command | PID | Description |
|---------------------|--------|--|
| DMX LOSS BEHAVIOUR | 0x8003 | (G S) Retrieve or set DMX signal lost behaviour Hold last command = 1 Black out = 2 Hold 2 min and fade out = 3 |
| DMX MODE SPEC. | 0x8004 | (G S) Retrieve or set DMX protocol version V4.5 = 1 |
| TUNGSTEN MODE | 0x8007 | (G S) Retrieve or set tungsten mode Disable = 0 Enable = 1 |
| RGBACL COLOR SPACE | 0x8010 | (G S) Retrieve or set RGBW plasa mode Disable = 0 Enable = 1 |
| HIGH SPEED MODE | 0x8012 | (G S) Retrieve or set highspeed mode Disable = 0 Enable = 1 |
| RDM SERVICE | 0x8013 | (G S) Retrieve or set RDM service Disable = 0 Enable = 1 |
| CRMX STATE | 0x8014 | (G S) Retrieve or set CRMX module Disable = 0 Enable = 1 |
| CRMX LINK STATE | 0x8015 | (G) Retrieve link state / unlink WDMX module from any transmitter Unlinked = 0 Linked = 1 |
| DMX REDUCE CHANNELS | 0x8017 | (G S) Retrieve or set reduced channels for DMX Disable = 0 Enable = 1 |
| DMX EXTENDED COLOR | 0x8018 | (G S) Retrieve or set extended color control mode for DMX Disable = 0 Enable = 1 |



| Manufacturer Commands | | 0x8xxx |
|---------------------------------|--------|---|
| Command | PID | Description |
| DMX / RDM GATEWAY | 0x8019 | (G S) Retrieve or set Art-net gateway Disable = 0 Enable = 1 |
| DMX VALID FILTER | 0x801A | (G S) Retrieve or set DMX valid filter Disable = 0 Enable = 1 |
| DMX LOSS BEHAVIOUR DESCRIPTION | 0x801C | (G) Retrieves signal lost description, depends on "DMX LOSS BEHAVIOUR" 1 → Hold last command 2 → Black out 3 → Hold 2 min and fade out |
| DMX MODE SPEC. DESCRIPTION | 0x801D | (G) Retrieves DMX mode specification description, depends on "DMX MODE SPEC." 1 → V4.5 |
| DMX TRANSITION TYPE | 0x801F | (G S) Retrieve or set DMX crossfader type Crossfading direct = 1 Crossfading through black = 2 Crossfading through white point = 3 Crossfading over white point = 4 Crossfading under white point = 5 |
| DMX TRANSITION TYPE DESCRIPTION | 0x8020 | (G) Retrieves DMX crossfader description, depends on "DMX TRANSITION TYPE" 1 → Crossfading direct 2 → Crossfading through black 3 → Crossfading through white point 4 → Crossfading over white point 5 → Crossfading under white point |
| DMX TERMINATION | 0x8021 | (G S) Retrieve or set DMX line termination Disable = 0 Enable = 1 |
| OPERATIONAL MODE | 0x8026 | (G S) Retrieve or set operational mode High Color Rendering = 1 High Output = 2 Low Noise = 3 |
| OPERATIONAL MODE DESCRIPTION | 0x8027 | (G) Retrieves operational mode description 1 → High Color Rendering 2 → High Output 3 → Low Noise |
| OPTICS ID | 0x8029 | (G) Retrieves current optics ID 00 00 (None), 00 01, 00 02, ... 27 0F (Adapter for final check) |
| OPTICS NAME | 0x802A | (G) Retrieves current optics description "No optics attached", "Adapter for final check", "Open Face Optics 30", etc. |

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