

Orbiter®

RDM Command Specification V2.0

LIGHTING - TECHNICAL INFORMATION

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Revision History

Date	L-Number	Page	Changes	Sign
13.10.2020	-	-	First Release	PM-SW
05.07.2022	L03936	all	Changes due to LiOS 2.0 and DMX V5.0	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 V4.5

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

Footprint depends on DMX settings (Operations/ECC = ON/OFF)

DMX Personality Identification V5.0

Identification	Data Hex	Description [Decimal Data: Mode Description (Footprint)]
Personality Description 1	0x01	01: CCT 8 Bit (Footprint 6)
Personality Description 2	0x02	02: CCT 16 Bit (Footprint 9)
Personality Description 3	0x03	03: HSI 8 Bit (Footprint 6)
Personality Description 4	0x04	04: HSI 16 Bit (Footprint 9)
Personality Description 5	0x05	05: x,y Coordinates 8 Bit (Footprint 6)
Personality Description 6	0x06	06: x,y Coordinates 16 Bit (Footprint 9)
Personality Description 7	0x07	07: Gel Selection 8 Bit (Footprint 9)
Personality Description 8	0x08	08: Gel Selection 16 Bit (Footprint 11)
Personality Description 9	0x09	09: Source Matching 8 Bit (Footprint 6)
Personality Description 10	0x0A	10: Source Matching 16 Bit (Footprint 7)
Personality Description 11	0x0B	11: Lighting Effects 8 Bit (Footprint 13)
Personality Description 12	0x0C	12: Lighting Effects 16 Bit (Footprint 22)
Personality Description 13	0x0D	13: RGBACL 8 Bit (Footprint 13)
Personality Description 14	0x0E	14: RGBACL 16 Bit (Footprint 23)
Personality Description 15	0x0F	15: CCT & HSI 8 Bit (Footprint 9)
Personality Description 16	0x10	16: CCT & HSI 16 Bit (Footprint 15)
Personality Description 17	0x11	17: Ultimate DMX Mode 8 Bit (Footprint 25)
Personality Description 18	0x12	18: Ultimate DMX Mode 16 Bit (Footprint 45)

Note: Footprint depends on DMX settings (Operations/ECC = ON/OFF)

**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
LANGUAGE CAPABILITIES	0x00A0	(G) Retrieves a list of available languages
LANGUAGE	0x00B0	(G S) Retrieve or set a language
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 S) Retrieves or sets 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 STATE	0x0403	(G) Retrieves the current operating state of the lamp
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 Off = 0 On = 1 Auto = 2
DISPLAY LEVEL	0x0501	(G S) Retrieve or change the display contrast 0...0xFF

Configuration		0x06xx
Command	PID	Description
REAL TIME CLOCK	0x0603	(G) Retrieves the real time clock (Year, Month, Day, Hour, Minute)

Control		0x10xx
Command	PID	Description
IDENTIFY DEVICE	0x1000	(G S) Identify device Off = 0 On = 1
RESET DEVICE	0x1001	(S) Reset device 0x01 for warm reset

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 (Link Local)
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 V5.0 = 2
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 EXTENDED COLOR	0x8018	(G S) Retrieve or set extended color control mode for DMX Disable = 0 Enable = 1
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 → 0x01 V4.5 2 → 0x02 V5.0
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
DMX OPERATION CHANNELS	0x8028	(G S) Retrieve or set operation channels for DMX Disable = 0 Enable = 1 <i>Note: valid for DMX V4.5 and V5.0, replaces "reduced channels" in DMX V4.5</i>



Manufacturer Commands		0x8xxx
Command	PID	Description
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.
BONJOUR STATE	0x802C	(G S) Retrieve or set Bonjour state (MDNS) Disable = 0 Enable = 1
SYNC MODE	0x802D	(G S) Retrieve or set sync mode Off = 1 On = 2
SYNC MODE DESCRIPTION	0x802E	(G) Retrieve sync mode description 1 → Off 2 → On
OPTICS AUTO ADJUST	0x802F	(G S) Retrieve or set auto adjust Disable = 0 Enable = 1
COLOR SENSOR MODE	0x8030	(G S) Retrieve or set color sensor mode Off = 1 Continuous = 2 Momentary = 3
COLOR SENSOR MODE DESCRIPTION	0x8031	(G) Retrieve color sensor mode description 1 → Off 2 → Continuous 3 → Momentary
OPTICS DISPLAY ILLUMINATION	0x8032	(G S) Retrieve or set display illumination Off = 1 Medium = 2 Full = 3
OPTICS DISPLAY ILLUMINATION DESCRIPTION	0x8033	(G) Retrieve display illumination description 1 → Off 2 → Medium 3 → Full

RDM Manufacturer RDM Parameter		0x90xx
Command	PID	Description
E120 DS ARRI PARAMETER DESC	0x90	1 byte (index/id) and 1...32 characters (description)

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