

L-Series® and SkyPanel®

RDM Protocol Specification V4.5

LIGHTING – TECHNICAL INFORMATION

L5.0022933

L03399

05 / 2019

Revision history

| Date | Changes | Sign |
|------------|---|------|
| 2018-09-17 | First version | mfg |
| 2018-10-09 | Ident number added | mfg |
| 2018-12-11 | Added PID 0x801A for L7 | mfg |
| 2019-04-26 | Removed PID 0x8004 for L10 Revision changed to 4.5 | mfg |
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RDM Protocol Specification Version 4.5

Used in L-Series fixtures from firmware version 2.5.1

Used in SkyPanel fixtures from firmware version 4.2

| Command | PID | Description |
|------------------------------|--------|--|
| Manufacturer ID | 0x20B9 | Manufacturer identification number (ARRI Lighting). |
| Device identification | | |
| Model ID | | <p>Model identification number</p> <p>L-Series</p> <p>0x0101 L7-C Hybrid</p> <p>0x0102 L5-C</p> <p>0x0103 L10-C</p> <p>0x0104 L7-T Hybrid</p> <p>0x0105 L7-TT Hybrid</p> <p>0x0106 L7-DT Hybrid</p> <p>0x0107 L7-C</p> <p>0x0108 L7-T</p> <p>0x0109 L7-TT</p> <p>0x010A L7-DT</p> <p>0x010B L7-C LE2</p> <p>0x010C L5-TT</p> <p>0x010D L5-DT</p> <p>0x010E L5-C LE2</p> <p>0x010F L10-TT</p> <p>0x0110 L10-DT</p> <p>SkyPanel</p> <p>0x0201 S60-C</p> <p>0x0202 S30-C</p> <p>0x0203 S60-RP</p> <p>0x0204 S30-RP</p> <p>0x0205 S120-C</p> <p>0x0206 S360-C</p> |
| Personality | | <p>DMX Personality</p> <p><i>Note: Channel count depending on the DMX version.</i></p> <p><i>Layout: Number in hex -> String, channel count</i></p> <p>C models (L10-C, S30-C, S60-C, S120-C, S360-C)</p> <p><i>DMX version >= 3.x</i></p> <p>0x01 P:1 – CCT & RGBW 8 bit, 8</p> <p>0x02 P:2 – CCT 8 bit, 3</p> <p>0x03 P:3 – CCT & HSI 8 bit, 6</p> <p>0x04 P:4 – RGBW 8 bit, 5</p> <p>0x05 P:5 – HSI 8 bit, 3</p> <p>0x06 P:6 – CCT & RGBW 16 bit, 16</p> <p>0x07 P:7 – CCT 16 bit, 6</p> <p>0x08 P:8 – CCT & HSI 16 bit, 12</p> <p>0x09 P:9 – RGBW 16 bit, 10</p> <p>0x0A P:10 – HSI 16 bit, 6</p> <p>0x0B P:11 – CCT & RGBW C/F, 14</p> <p>0x0C P:12 – CCT C/F, 5</p> <p>0x0D P:13 – CCT & HSI C/F, 10</p> |

| | | DMX Personality |
|-------------|---------------------------|---|
| Personality | 0x0E | P:14 – RGBW C/F, 10 |
| | 0x0F | P:15 – HSI C/F, 6 |
| | | C models (L10-C, S30-C, S60-C, S120-C, S360-C) |
| | | <i>DMX version >= 4.x</i> |
| | 0x01 | P:1 – CCT & RGBW 8 bit, 12 |
| | 0x02 | P:2 – CCT 8 bit, 7 |
| | 0x03 | P:3 – CCT & HSI 8 bit, 10 |
| | 0x04 | P:4 – RGBW 8 bit, 9 |
| | 0x05 | P:5 – HSI 8 bit, 7 |
| | 0x06 | P:6 – CCT & RGBW 16 bit, 20 |
| | 0x07 | P:7 – CCT 16 bit, 10 |
| | 0x08 | P:8 – CCT & HSI 16 bit, 16 |
| | 0x09 | P:9 – RGBW 16 bit, 14 |
| | 0x0A | P:10 – HSI 16 bit, 10 |
| | 0x0B | P:11 – CCT & RGBW C/F, 18 |
| | 0x0C | P:12 – CCT C/F, 9 |
| | 0x0D | P:13 – CCT & HSI C/F, 14 |
| | 0x0E | P:14 – RGBW C/F, 14 |
| | 0x0F | P:15 – HSI C/F, 10 |
| | | C models (L10-C, S30-C, S60-C, S120-C, S360-C) |
| | | <i>DMX version >= 4.1</i> |
| | 0x01 | P:1 – CCT & RGBW 8 bit, 12 |
| | 0x02 | P:2 – CCT 8 bit, 7 |
| | 0x03 | P:3 – CCT & HSI 8 bit, 10 |
| | 0x04 | P:4 – RGBW 8 bit, 9 |
| | 0x05 | P:5 – HSI 8 bit, 7 |
| | 0x06 | P:6 – CCT & RGBW 16 bit, 20 |
| | 0x07 | P:7 – CCT 16 bit, 10 |
| | 0x08 | P:8 – CCT & HSI 16 bit, 16 |
| | 0x09 | P:9 – RGBW 16 bit, 14 |
| | 0x0A | P:10 – HSI 16 bit, 10 |
| | 0x0B | P:11 – CCT & RGBW C/F, 18 |
| | 0x0C | P:12 – CCT C/F, 9 |
| | 0x0D | P:13 – CCT & HSI C/F, 14 |
| | 0x0E | P:14 – RGBW C/F, 14 |
| | 0x0F | P:15 – HSI C/F, 10 |
| | 0x10 | P:16 – GEL 8 bit, 21 |
| | | C models (L10-C, S30-C, S60-C, S120-C, S360-C) |
| | | <i>DMX version >= 4.2</i> |
| | 0x01 | P:1 – CCT & RGBW 8 bit, 12 |
| | 0x02 | P:2 – CCT 8 bit, 7 |
| | 0x03 | P:3 – CCT & HSI 8 bit, 10 |
| | 0x04 | P:4 – RGBW 8 bit, 9 |
| | 0x05 | P:5 – HSI 8 bit, 7 |
| | 0x06 | P:6 – CCT & RGBW 16 bit, 20 |
| | 0x07 | P:7 – CCT 16 bit, 10 |
| | 0x08 | P:8 – CCT & HSI 16 bit, 16 |
| | 0x09 | P:9 – RGBW 16 bit, 14 |
| 0x0A | P:10 – HSI 16 bit, 10 | |
| 0x0B | P:11 – CCT & RGBW C/F, 18 | |
| 0x0C | P:12 – CCT C/F, 9 | |

| | | DMX Personality | |
|-------------|----------------------|---|---|
| Personality | 0x0D | P:13 – CCT & HSI C/F, 14 | |
| | 0x0E | P:14 – RGBW C/F, 14 | |
| | 0x0F | P:15 – HSI C/F, 10 | |
| | 0x10 | P:16 – GEL V2 8 bit, 17 | |
| | 0x11 | P:17 – GEL V2 16 bit, 19 | |
| | 0x12 | P:18 – x, y coordinates 8 bit, 11 | |
| | 0x13 | P:19 – x, y coordinates 16 bit, 17 | |
| | | | C models (L10-C, S30-C, S60-C, S120-C, S360-C) |
| | | | <i>DMX version >= 4.3</i> |
| | 0x01 | P:1 – CCT & RGBW 8 bit, 12 | |
| | 0x02 | P:2 – CCT 8 bit, 7 | |
| | 0x03 | P:3 – CCT & HSI 8 bit, 10 | |
| | 0x04 | P:4 – RGBW 8 bit, 9 | |
| | 0x05 | P:5 – HSI 8 bit, 7 | |
| | 0x06 | P:6 – CCT & RGBW 16 bit, 20 | |
| | 0x07 | P:7 – CCT 16 bit, 10 | |
| | 0x08 | P:8 – CCT & HSI 16 bit, 16 | |
| | 0x09 | P:9 – RGBW 16 bit, 14 | |
| | 0x0A | P:10 – HSI 16 bit, 10 | |
| | 0x0B | P:11 – CCT & RGBW C/F, 18 | |
| | 0x0C | P:12 – CCT C/F, 9 | |
| | 0x0D | P:13 – CCT & HSI C/F, 14 | |
| | 0x0E | P:14 – RGBW C/F, 14 | |
| | 0x0F | P:15 – HSI C/F, 10 | |
| | 0x10 | P:16 – GEL V2 8 bit, 17 | |
| | 0x11 | P:17 – GEL V2 16 bit, 19 | |
| | 0x12 | P:18 – x, y coordinates 8 bit, 11 | |
| | 0x13 | P:19 – x, y coordinates 16 bit, 17 | |
| | 0x14 | P:20 – Sources 8 bit, 10 | |
| | 0x15 | P:21 – Sources 16 bit, 12 | |
| | 0x16 | P:22 – Effects 8 bit, 13 | |
| | 0x17 | P:23 – Effects 16 bit, 21 | |
| | | | Tuneable models (L5 / L7 / L10-DT / TT) |
| | | | <i>DMX version >= 3.x</i> |
| | 0x01 | P:1 – CCT 8 bit, 3 | |
| | 0x02 | P:2 – CCT 16 bit, 6 | |
| | 0x03 | P:3 – CCT C/F, 6 | |
| | | | <i>DMX version >= 4.0</i> |
| | 0x01 | P:1 – CCT 8 bit, 7 | |
| | 0x02 | P:2 – CCT 16 bit, 10 | |
| | 0x03 | P:3 – CCT C/F, 10 | |
| | | | Non tuneable models (S30-RP, S60-RP, L7-T) |
| | | <i>DMX version >= 3.x</i> | |
| 0x01 | P:1 – Dimm 8 bit, 1 | | |
| 0x02 | P:2 – Dimm 16 bit, 2 | | |
| 0x03 | P:3 – Dimm C/F, 2 | | |
| | | Non tuneable models (S30-RP, S60-RP) | |
| | | <i>DMX version >= 4.x</i> | |
| 0x01 | P:1 – Dimm 8 bit, 5 | | |
| 0x02 | P:2 – Dimm 16 bit, 6 | | |
| 0x03 | P:3 – Dimm C/F, 6 | | |

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| Network Management | | |
| DISC UNIQUE BRANCH | 0x0001 | Search RDM devices |
| DISC MUTE | 0x0002 | (G S) Mute RDM device, no response message |
| DISC UN MUTE | 0x0003 | (G S) Activate RDM device for response message |
| Status Collection | | |
| QUEUED MESSAGE | 0x0020 | (G) Retrieves queued messages |
| STATUS MESSAGES | 0x0030 | (G) Retrieves current Warning/Error messages |
| STATUS ID DESCRIPTION | 0x0031 | (G) Retrieves description of each Warning/Error/Status message |
| RDM Information | | |
| 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) and their parameters. |
| Product Information | | |
| 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 | (S) Set the device to its factory defaults. |
| 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 | | |
| DMX PERSONALITY | 0x00E0 | (G S) 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) 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) Requests the default values for the given DMX512 slot offsets for a device. |
| Sensors 0x02xx | | |
| SENSOR DEFINITION | 0x0200 | (G) Retrieves the definition of a specific sensor. |
| SENSOR VALUE | 0x0201 | (G S) Retrieves or resets sensor data. |
| Dimmer Settings 0x03xx | | |
| CURVE | 0x0343 | (G S) Retrieves or sets a dimmer curve. |
| CURVE DESCRIPTION | 0x0344 | (G) Retrieves the description of a dimmer curve. |
| Power / Lamp Settings 0x04xx | | |
| DEVICE HOURS | 0x0400 | (G) Retrieves the number of hours of operation the device has been in use. |
| LAMP HOURS | 0x0401 | (G S) Retrieves the number of lamp hours or sets the counter in the device to a specific starting value. |
| DEVICE POWER CYCLES | 0x0405 | (G) Retrieves the number of power cycles of a device. |

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| Display Settings | 0x05xx | |
| 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 | |
| REAL TIME CLOCK | 0x0603 | (G S) Retrieve the value or set the real time clock. |
| Control | 0x10xx | |
| IDENTIFY DEVICE | 0x1000 | (G S) The identify flag (flashes the light, C models flash blue, TT, DT or RP flash white) |
| RESET DEVICE | 0x1001 | (S) Perform a rest of the device. |
| POWER STATE | 0x1010 | (G S) Retrieve or set the power state of the device. |
| POWER STATE FULL OFF | 0x00 | |
| POWER STATE SHUTDOWN | 0x01 | |
| POWER STATE STANDBY | 0x02 | |
| POWER STATE NORMAL | 0xFF | |
| RDMnet Management | | |
| LIST INTERFACES | 0x0700 | (G) Retrieves interface list. |
| INTERFACE LABEL | 0x0701 | (G) Retrieves interface name. |
| INTERFACE HARDWARE ADDRESS TYPE1 | 0x0702 | (G) Retrieves hardware address. |
| IPV4 DHCP MODE | 0x0703 | (G S) Retrieve or set DHCP. |
| IPV4 CURRENT ADDRESS | 0x0705 | (G) Retrieve Ipv4 address / netmask. |
| IPV4 STATIC ADDRESS | 0x0706 | (G S) Retrieve or set Ipv4 static address. |
| INTERFACE RELEASE DHCP | 0x0708 | (S) Set release DHCP lease. |
| INTERFACE APPLY CONFIGURATION | 0x0709 | (S) Set apply interface configuration. |
| IPV4 DEFAULT ROUTE | 0x070A | (G S) Retrieve or set default route. |
| DNS IPV4 NAME SERVER | 0x070B | (G S) Retrieve or set name servers. |
| DNS HOSTNAME | 0x070C | (G S) Retrieve or set host name. |
| Manufacturer Commands | 0x8xxx | |
| TUNNELING MESSAGE | 0x8000 | L5 / L7 internal use only! |
| FAN MODE | 0x8001 | (G S) Fan mode <i>L7-Hybrid</i> FAN_OFF = 0 FAN_LOW = 1 FAN_HIGH = 2 FAN_AUTO_LOW = 3 FAN_AUTO_HIGH = 4 FAN_VARI = 5 FAN_PASS = 6 FAN_HI45 = 7 <i>L7 Active, L5, L10, SkyPanel S30 / S60 / S120</i> FAN_LOW / FAN_QUIET = 0 FAN_VARI / FAN_VARIABLE = 1 FAN_HI45 / FAN_HIGH_TEMPERATURE = 2 <i>SkyPanel S360</i> FAN_Normal = 3 |
| STATUS LEDs | 0x8002 | (G S) Status LEDs and display illumination ON = 0 OFF = 1 |

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| DMX SIGNAL LOST MODE | 0x8003 | (G S) DMX Signal lost mode <i>L10 and SkyPanel only</i> Hold = 1 Hold 2 minutes then fade out = 2 Black out = 3 |
| DMX PROTOCOL VERSION | 0x8004 | (G S) DMX protocol version <i>SkyPanel only</i> V3.4 = 1 V4.0 = 2 V4.1 = 3 V4.2 = 4 V4.3 = 5 |
| DISPLAY CONTRAST | 0x8005 | (G S) Display contrast (value range 0 ... 10) <i>Control panel MKII only</i> Less = 0 High = 10 |
| DIM CURVE | 0x8006 | (G S) Dimmer curve <i>SkyPanel only</i> Exponential = 1 Linear = 2 Logarithmic = 3 S-Curve = 4 |
| TUNGSTEN MODE | 0x8007 | (G S) Tungsten dimming mode <i>SkyPanel only</i> Off = 0 On = 1 |
| LOW END MODE | 0x8008 | (G S) Low end dimming mode <i>SkyPanel only</i> Off = 0 On = 1 |
| IP DHCP | 0x8009 | (G S) DHCP enable / disable <i>SkyPanel only</i> Disable = 0 Enable = 1 Art-net on IP 2.x.x.x = 2 Art-net on IP 10.x.x.x = 3 |
| IP ADDRESS | 0x800A | (G S) IP address <i>SkyPanel only</i> IP address (ASCII format, e.g. 192.168.1.1) |
| IP SUB NET | 0x800B | (G S) Subnet mask <i>SkyPanel only</i> Subnet mask (ASCII format, e.g. 255.255.255.0) |
| IP GATEWAY | 0x800C | (G S) Gateway address <i>SkyPanel only</i> Gateway address (ASCII format, e.g. 192.168.1.1) |
| IP DNS1 | 0x800D | (G S) DNS1 address <i>SkyPanel only</i> DNS1 address (ASCII format, e.g. 8.8.8.8) |
| IP DNS2 | 0x800E | (G S) DNS2 address <i>SkyPanel only</i> DNS2 address, not yet supported |

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| ERROR MODE DISPLAY | 0x800F | (G S) Display error silent mode <i>Control panel MKII only</i> Normal = 0 Silent error = 1 |
| RGBW PLASA MODE | 0x8010 | (G S) Plasa mode RGBW calibrated color space Off = 0 On = 1 |
| FREQUENCY | 0x8011 | (G S) PWM frequency Frequency feature off = 0 Frequency 1 = 1 Frequency 2 = 2 Frequency 3 = 3 Frequency 4 = 4 Frequency 5 = 5 Frequency 6 = 6 Frequency 7 = 7 Frequency 8 = 8 Frequency 9 = 9 Frequency 10 = 10 |
| HIGH SPEED MODE | 0x8012 | (G S) Highspeed mode Off = 0 On = 1 |
| SERVICE RDM | 0x8013 | (G S) RDM service enable / disable Disable = 0 Enable = 1 |
| WDMX MODE | 0x8014 | (G S) WDMX state <i>SkyPanel S360 only</i> Off = 0 On = 1 |
| WDMX LINK | 0x8015 | (G S) WDMX link state <i>SkyPanel S360 only</i> Get: Unlinked = 0, linked = 1 Set: Unlink = 0 |
| WDMX CREDENTIALS | 0x8016 | (G S) WDMX credentials (paired fingerprints) <i>SkyPanel S360 only</i> Get: 172 ASCII char Set: 172 ASCII char |
| STAGE MODE | 0x8017 | (G S) Stage mode <i>SkyPanel only</i> Off = 0 On = 1 |
| EXTENDED COLOR CONTROL | 0x8018 | (G S) Extended color control <i>SkyPanel only</i> Off = 0 On = 1 |
| ARTNET GATEWAY | 0x8019 | (G S) Art-net / sACN gateway <i>SkyPanel only</i> Off = 0 On = 1 |

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| DMX FRAME LENGTH FILTER | 0x801A | <p>(G S) DMX Frame length filter</p> <p>When active, the DMX frame length will be checked. To enable DMX capability, 10 DMX frames with same length need to be received. Each of these frames need to be received within 1250 ms.</p> <p>Thereafter the fixture will accept every DMX packet received. A resync as described above will be performed after change of the frame length.</p> <p>When not active, every DMX frame length is accepted and processed. This is useful, when a DMX/RDM merger cuts the DMX frame length dynamically to expand the time slot for transmitting RDM messages.</p> <p>Filter active = 1 (ON, default) Filter not active = 0 (OFF)</p> |
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