

L-Series® and SkyPanel®

RDM Protocol Specification V4.7

LIGHTING – TECHNICAL INFORMATION

L5.0022933

12 / 2022

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
2019-06-16	Added PIDs 0x8022/23/24/25 for LE Compensation feature Revision Changed to 4.6	mfg
2019-07-19	Minor adjustments and layout fixes	mfg
2022-12-06	added PID 0x8035 und 0x8036 Manufacturer commands for storing and activating DMX presets in SkyPanel from FW4.4 Revision changed to 4.7	mfg

© 2019 Arnold & Richter Cine Technik GmbH & Co. Betriebs KG.

All rights reserved. Information subject to change without notice. ARRI and all affiliated companies disclaim liability for any injury, damage, direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information contained in this document.

No part of this document may be used for distribution, reproduction, transmission, transcription, storage in a data retrieval system, or translated into any language in any form by any means without the prior written permission of ARRI. If you are downloading files from our web pages for your personal use, make sure to check for updated versions. ARRI cannot take any liability whatsoever for downloaded files, as technical data are subject to change without notice.

ARRI, the ARRI Logo, ARRIMAX, ARRISUN, EB, **LOS**, L-Series, MAX Technology, M-Series, Orbiter, POCKETPAR, Quick Lighting Mount, QLM, True Blue, SkyPanel, SKYPANEL, T 12 as well as the blue/silver color combination are registered trademarks of Arnold & Richter Cine Technik GmbH & Co. Betriebs KG.

RDM Protocol Specification Version 4.7

Used in L-Series fixtures from firmware version 2.5.1

Used in SkyPanel fixtures from firmware version 4.4

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	

Network Management		
DISC UNIQUE BRANCH	0x0001	Search RDM devices
DISC MUTE	0x0002	(S) Mute RDM device, no response message
DISC UN MUTE	0x0003	(S) Activate RDM device for response message
Status Collection		
QUEUED MESSAGE	0x0020	(G) Retrieves queued messages or 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
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 >= 0x8000) 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	(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		
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) Retrieves the default DMX value for each DMX slot of the recent DMX mode.
Sensors 0x02xx		
SENSOR DEFINITION	0x0200	(G) Retrieves the definition of a specific sensor.
SENSOR VALUE	0x0201	(G) 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.

MODULATION FREQUENCY	0x0347	(G S) <i>SkyPanel only</i> Modulation frequency modes.
MODULATION FREQUENCY DESCRIPTION	0x0348	(G) <i>SkyPanel only</i> Description text for each mode.
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) Retrieves the number of lamp hours.
DEVICE POWER CYCLES	0x0405	(G) Retrieves the number of power cycles of a device.
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 system reboot.
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
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
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
DMX FRAME LENGTH FILTER	0x801A	(G S) DMX Frame length filter 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. Thereafter the fixture will accept every DMX packet received. A resync as described above will be performed after change of the frame length. 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. Filter active = 1 (ON, default) Filter not active = 0 (OFF)
LE_COMP	0x8022	(G S) Light Engine Compensation <i>SkyPanel S60 C / S120 C / S360 C only</i> Off = 0 On = 1
LE_COMP_DESCRIPTION	0x8023	(G) Light Engine Compensation Description <i>SkyPanel S60 C / S120 C / S360 C only</i> 0 = Off 1 = On
LE_GENERATION	0x8024	(G) Light Engine Generation <i>SkyPanel S60 C / S120 C / S360 C only</i> Mixed Light Engines or Error = 0 Light Engine Generation 1 = 1 Light Engine Generation 2 = 2
LE_GENERATION_DESCRIPTION	0x8025	(G) Light Engine Generation Description <i>SkyPanel S60 C / S120 C / S360 C only</i> 0 = Mixed Light Engines or Error 1 = Light Engine Generation 1 2 = Light Engine Generation 2
RDM_DMX_PRESET_STORE	0x8035	(S) Store DMX Preset 0 = Preset 1 1 = Preset 2 ... 9 = Preset 10
RDM_DMX_PRESET_ACTIVATE	0x8036	(S) Activate DMX Preset 0 = Preset 1 1 = Preset 2 ... 9 = Preset 10

This page is left blank intentionally

ARRI 