

DMX protocol

Robin iEsprite® Fresnel/Robin iEsprite® PC - DMX protocol

Version: 1.0 Mode 1 - Standard 16 bit, Mode 2 - Reduced 8 bit, Mode 3-Standard 16 bit+green corr. Mode 4 - Reduced 8 bit+green corr.

Quick overview of default DMX values for each channel

Mode/channel				Default DMX Value	Function
1	2	3	4		
1	1	1	1	128	Pan
2	2	2	2	0	Pan Fine
3	3	3	3	128	Tilt
4	4	4	4	0	Tilt fine
5	5	5	5	0	Pan/Tilt speed , Pan/Tilt time
6	6	6	6	0	Power/Special functions
7	7	7	7	10	LED frequency selection
8	8	8	8	128	LED frequency fine adjusting
9	9	9	9	0	Max. light intensity indication and setting
10	10	10	10	0	Colour wheel 1
11	*	11	*	0	Colour wheel 1- fine positioning
12	11	12	11	0	Colour wheel 2
13	*	13	*	0	Colour wheel 2- fine positioning
14	12	14	12	0	Cyan
15	13	15	13	0	Magenta
16	14	16	14	0	Yellow
17	15	17	15	0	CTO filter
*	*	18	16	128	Green Correction
18	16	19	17	0	Virtual colour wheel
19	17	20	18	0	Effects Speed
20	18	21	19	0	CMY/CTO/Barndoors/Zoom/Frost time
21	19	22	20	0	Scrim positioning
22	20	23	21	128	Scrim indexing
23	21	24	22	0	Frost
24	22	25	23	128	Zoom
25	*	26	*	0	Zoom - fine
26	23	27	24	128	Edge colour correction
27	24	28	25	128	Barndoors rotation
28	25	29	26	0	Barndoor 1-movement
29	26	30	27	0	Barndoor 2-movement
30	27	31	28	0	Barndoor 3-movement
31	28	32	29	0	Barndoor 4-movement
32	29	33	30	32	Shutter/ strobe
33	30	34	31	0	Dimmer intensity
34	*	35	*	0	Dimmer intensity - fine

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
1	1	1	1	0 - 255	Pan	proportional
					Pan movement by 540° (128=default)	
2	2	2	2	0 - 255	Pan Fine	proportional
					Fine control of pan movement (0=default)	

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Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
3	3	3	3		Tilt	
				0 - 255	Tilt movement by 265° (128=default)	proportional
4	4	4	4		Tilt fine	
				0 - 255	Fine control of tilt movement (0=default)	proportional
5	5	5	5		Pan/Tilt speed , Pan/Tilt time	
				0	Standard mode (0=default)	step
				1	Max. Speed Mode	step
					Pan/Tilt speed mode	
				2 - 255	Speed from max. to min.	proportional
					Pan/Tilt time mode	
				2 - 255	Time from 0.2 sec. to 25.5 sec.	proportional
6	6	6	6		Power/Special functions	
					Factory display menu setting: DMX Input-Wired ,Graphic display-On, Pan/tilt Mode-Speed,Blackout while pan/tilt moving-Off,Blackout while colour wheels moving-Off, Fans mode-Auto, High-power mode-Off	
				0 -5	Reserved (0=default)	
					<i>To activate following functions, stop in DMX value for at least 3 s and shutter must be closed at least 3 sec. („Shutter,Strobe” channel 32/29/33/30/32 must be at range: 0-31 DMX). Corresponding menu items are temporarily overridden.</i>	
				6-7	Standby mode: On (fixture effects are deactivated, light output is closed)	step
				8-9	Standby mode: Off	step
				10-14	DMX input: Wired DMX *	step
				15-19	DMX input: Wireless DMX *	step
					* function is active only 10 seconds after switching the fixture on	
				20-24	Graphic display: On	step
				25-29	Graphic display: Off	step
				30-31	Pressure test: On (fixture does not respond to DMX during the test except values 32-33 (Pressure test Off))	step
				32-33	Pressure test: Off	step
				34-39	Reserved	
				40-44	Pan/Tilt mode: Speed	step
				45-49	Pan/Tilt mode: Time	step
				50-54	Blackout while pan/tilt moving: On	step
				55-59	Blackout while pan/tilt moving: Off	step
				60-64	Blackout while colour wheels moving: On	step
				65-69	Blackout while colour wheels moving: Off	step
				70-79	Reserved	
				80-84	Fans mode: Auto	step
				85-89	Fans mode: High	step
				90-94	High-power mode: On	step
				95-99	High power mode: Off	step
				100-104	Reserved	
				105-109	Dimmer curve: Super Square Law	step
				110-114	Dimmer curve: Square law	step
				115-119	Dimmer curve: Linear	step
				120-124	Parking position: On	step
				125-129	Parking position: Off	step

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Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
					<i>To activate following functions, stop in DMX value for at least 3 seconds.</i>	
				130 - 139	Total fixture reset (without pan/tilt)	step
				140 - 149	Pan and Tilt reset	step
				150 - 159	Colour system reset	step
				160-169	Reserved	
				170-174	Pan reset	step
				175-179	Tilt reset	step
				180-189	Zoom/focus/frost reset	step
				190-199	Barndoors/scrims reset	step
				200-209	Total fixture reset (including pan/tilt)	step
				210-239	Reserved	
				240	Disabled "Quiet mode"	step
				241-255	"Quiet mode" - fan noise control from min. to max.	proportional
7	7	7	7		LED frequency selection	
					Factory display menu setting: 600Hz	
					<i>Select PWM output frequency of LEDs. Selected PWM frequency can be fine adjusted in 127 steps up/down around selected PWM frequency on the channel below. Corresponding menu item (Frequency Setup) is temporarily overridden.</i>	
				0-4	PWM frequency from Display menu (fixture utilizes PWM frequency set in the display menu item Frequency Setup).	step
				5-9	300 Hz	step
				10-14	600 Hz (10=default)	step
				15-19	1200 Hz	step
				20-24	2400 Hz	step
				25-255	Reserved (fixture utilizes PWM frequency set in the display menu item Frequency Setup).	
8	8	8	8		LED frequency fine adjusting	
					Factory display menu setting: 600Hz	
					<i>Select desired PWM output frequency of LEDs on the channel above.</i>	
				0-1	Selected LED Frequency	step
				2	LED Frequency (step -126)	step
				3	LED Frequency (step -125)	step
				4	LED Frequency (step -124)	step
				:		
				125	LED Frequency (step -3)	step
				126	LED Frequency (step -2)	step
				127	LED Frequency (step -1)	step
				128	Selected LED Frequency (128=default)	step
				129	LED Frequency (step +1)	step
				130	LED Frequency (step +2)	step
				131	LED Frequency (step +3)	step
				:		
				252	LED Frequency (step +124)	step
				253	LED Frequency (step +125)	step
				254	LED Frequency (step +126)	step
				255	Selected LED Frequency	step
9	9	9	9		Max. light intensity indication and setting	

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Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				0-10	No function (0=default)	
				11-20	Indication of drop of max. light intensity	step
					<i>A drop of max. light intensity of the fixture (compared to its original intensity) is indicated by a corresponding colour output:</i>	
					<i>0-5%, (WHITE /new LED module/)</i>	
					<i>6-10% (RED)</i>	
					<i>11-15% (GREEN)</i>	
					<i>16-20% (BLUE)</i>	
					<i>21-25% (CYAN)</i>	
					<i>26-30% (MAGENTA)</i>	
					<i>31-35% (YELLOW)</i>	
					<i>36-40% (ORANGE)</i>	
					<i>Pan/tilt/zoom is set at 128 DMX (50%), Dimmer is open at 255 DMX (100%).</i>	
					<i>To set a drop of max. light intensity (compared to original light intensity), stay at DMX value for at least 3 sec. and shutter must be closed at least 3 sec. (Channel „Shutter/ Strobe” 33/30 must be at range: 0-31 DMX). Corresponding menu items are permanently overwritten.</i>	
				21-30	Set drop by 6-10% (RED)	step
				31-40	Set drop by 11-15% (GREEN)	step
				41-50	Set drop by 16-20% (BLUE)	step
				51-60	Set drop by 21-25% (CYAN)	step
				61-70	Set drop by 26-30% (MAGENTA)	step
				71-80	Set drop by 31-35% (YELLOW)	step
				81-90	Set drop by 36-40% (ORANGE)	step
				91-100	Original intensity (WHITE)	step
				101-255	Reserved	
10	10	10	10		Colour wheel 1	
					Continual positioning	
				0	Open/white (0=default)	proportional
				21	Deep red	proportional
				43	Deep blue	proportional
				64	Orange	proportional
				86	Green	proportional
				107	Congo blue	proportional
				128-129	Open/White	step
					Positioning	
				130-141	Deep red	step
				142-153	Deep blue	step
				154-165	Orange	step
				166-177	Green	step
				178-189	Congo blue	step
				190 - 215	Forwards rainbow effect from fast to slow	proportional
				216 - 217	No rotation	step
				218 - 243	Backwards rainbow effect from slow to fast	proportional
				244 - 249	Random colour selection by audio control	step
					(Set microphone sensitivity in menu „Personality”)	

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Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				250 - 255	Auto random colour selection from fast to slow	proportional
11	*	11	*		Colour wheel 1 - fine positioning	
				0 - 255	Fine positioning (0=default)	proportional
12	11	12	11		Colour wheel 2	
					Continual positioning	
				0	Open/white (0=default)	proportional
				21	Multicolour	proportional
				43	Laser green	proportional
				64	Lavender	proportional
				86	Filter CRI 80	proportional
				107	Filter CRI 90	proportional
				128-129	Open/White	step
					Positioning	
				130-141	Multicolour	step
				142-153	Laser green	step
				154-165	Lavender	step
				166-177	Filter CRI 80	step
				178-189	Filter CRI 90	step
				190 - 215	Forwards rainbow effect from fast to slow	proportional
				216 - 217	No rotation	step
				218 - 243	Backwards rainbow effect from slow to fast	proportional
				244 - 249	Random colour selection by audio control	step
					(Set microphone sensitivity in menu „Personality“)	
				250 - 255	Auto random colour selection from fast to slow	proportional
13	*	13	*		Colour wheel 2 - fine positioning	
				0 - 255	Fine positioning (0=default)	proportional
14	12	14	12		Cyan	
				0 - 255	Cyan from min. saturation --> full cyan (0=default)	proportional
15	13	15	13		Magenta	
				0 - 255	Magenta from min. saturation --> full magenta (0=default)	proportional
16	14	16	14		Yellow	
				0 - 255	Yellow from min. saturation --> full yellow (0=default)	proportional
17	15	17	15		CTO	
				0 - 255	CTO from 6700K --> 3000K (0=default)	proportional
*	*	18	16		Green correction	
				0	Uncorrected white	step
				1-127	Minus green --> uncorrected white	proportional
				128	Uncorrected white (128=default)	step
				129-255	Uncorrected white --> Plus green	proportional
18	16	19	17		Virtual colour wheel	
					<i>See table "Colours on Virtual Colour Wheel" to find components of each colour</i>	
					<i>The following channels are disabled: 9-17/15/18/16 (depends on mode)</i>	
				0	No function (0=default)	step
				1-2	Filter 4 (Medium Bastard Amber)	step
				3-4	Filter 10 (Medium Yellow)	step
				5-6	Filter 19 (Fire)	step
				7-8	Filter 26 (Bright Red)	step

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Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				9-10	Filter 58 (Lavender)	step
				11-12	Filter 68 (Sky Blue)	step
				13-14	Filter 71 (Tokyo Blue)	step
				15-16	Filter 79 (Just Blue)	step
				17-18	Filter 88 (Lime Green)	step
				19-20	Filter 90 (Dark Yellow Green)	step
				21-22	Filter 100 (Spring Yellow)	step
				23-24	Filter 101 (Yellow)	step
				25-26	Filter 102 (Light Amber)	step
				27-28	Filter 103 (Straw)	step
				29-30	Filter 104 (Deep Amber)	step
				31-32	Filter 105 (Orange)	step
				33-34	Filter 106 (Primary Red)	step
				35-36	Filter 111 (Dark Pink)	step
				37-38	Filter 115 (Peacock Blue)	step
				39-40	Filter 116 (Medium Blue-Green)	step
				41-42	Filter 117 (Steel Blue)	step
				43-44	Filter 118 (Light Blue)	step
				45-46	Filter 119 (Dark Blue)	step
				47-48	Filter 120 (Deep Blue)	step
				49-50	Filter 121 (Filter Green)	step
				51-52	Filter 128 (Bright Pink)	step
				53-54	Filter 131 (Marine Blue)	step
				55-56	Filter 132 (Medium Blue)	step
				57-58	Filter 134 (Golden Amber)	step
				59-60	Filter 135 (Deep Golden Amber)	step
				61-62	Filter 136 (Pale Lavender)	step
				63-64	Filter 137 (Special Lavender)	step
				65-66	Filter 138 (Pale Green)	step
				67-68	Filter 139 (Primary Green)	step
				69-70	Filter 141 (Bright Blue)	step
				71-72	Filter 147 (Apricot)	step
				73-74	Filter 148 (Bright Rose)	step
				75-76	Filter 152 (Pale Gold)	step
				77-78	Filter 154 (Pale Rose)	step
				79-80	Filter 157 (Pink)	step
				81-82	Filter 158 (Deep Orange)	step
				83-84	Filter 162 (Bastard Amber)	step
				85-86	Filter 164 (Flame Red)	step
				87-88	Filter 165 (Daylight Blue)	step
				89-90	Filter 169 (Lilac Tint)	step
				91-92	Filter 170 (Deep Lavender)	step
				93-94	Filter 172 (Lagoon Blue)	step
				95-96	Filter 179 (Chrome Orange)	step
				97-98	Filter 180 (Dark Lavender)	step
				99-100	Filter 181 (Congo Blue)	step
				101-102	Filter 197 (Alice Blue)	step
				103-104	Filter 201 (Full C.T. Blue)	step

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Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				105-106	Filter 202 (Half C.T. Blue)	step
				107-108	Filter 203 (Quarter C.T. Blue)	step
				109-110	Filter 204 (Full C.T. Orange)	step
				111-112	Filter 205 (Half C.T. Orange)	step
				113-114	Filter 206 (Quarter C.T. Orange)	step
				115-116	Filter 247 (Filter Minus Green)	step
				117-118	Filter 248 (Half Minus Green)	step
				119-120	Filter 281 (Three Quarter C.T. Blue)	step
				121-122	Filter 285 (Three Quarter C.T. Orange)	step
				123-124	Filter 352 (Glacier Blue)	step
				125-126	Filter 353 (Lighter Blue)	step
				127-128	Filter 715 (Cabana Blue)	step
				129-130	Filter 778 (Millennium Gold)	step
				131-132	Filter 793 (Vanity Fair)	step
				133-255	Reserved	
19	17	20	18		Effects Speed	
				0-255	Speed of CMY+CTO movement from max. to min. (0=default)	proportional
20	18	21	19		CMY/CTO/Colour wheels/Barndoors/Zoom/Frost time	
				0	Function is off (0=default)	step
				1 - 255	Time of CMY, CTO, colour wheels,barndoors, zoom, frost movement (0.1sec-->25.5sec.)	proportional
21	19	22	20		Scrim positioning	
				0	No function (0=default)	step
				1-255	Scrim inserting (0.5%-->100%)	proportional
22	20	23	21		Scrim indexing	
				0-255	Scrim indexing 0°-360° /1.4°per 1 DMX/, (128=default)	
					(0 DMX=0°, 64DMX=90°, 128DMX=180°, 192DMX=270°, 255DMX=360°)	proportional
23	21	24	22		Frost	
				0	Open (0=default)	step
					Frost cannot stay in intermediate position, it will auto-move to full/open position.	
					Light Frost	
				1-50	Light Frost from 0% to 100%	proportional
				51-53	100% Light Frost	step
				54-63	Pulse closing from slow to fast	proportional
				64-73	Pulse opening from fast to slow	proportional
				74-83	Ramping from fast to slow	proportional
				84-86	Open	step
					Medium Frost	
				87-136	Medium Frost from 0% to 100%	proportional
				137-139	100% Medium Frost	step
				140-149	Pulse closing from slow to fast	proportional
				150-159	Pulse opening from fast to slow	proportional
				160-169	Ramping from fast to slow	proportional
				170-172	Open	step
					Combined Frost	
				173-222	Medium Frost from 0% to 100% (Light Frost inserted)	proportional
				223-225	100% Medium Frost (Light Frost inserted)	step

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Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				226-235	Pulse closing from slow to fast	proportional
				236-245	Pulse opening from fast to slow	proportional
				246-255	Ramping from fast to slow	proportional
24	22	25	23		Zoom	
				0 - 255	Zoom from max. to min. beam angle (128=default)	proportional
25	*	26	*		Zoom - fine	
				0-255	Fine zooming (0=default)	proportional
26	23	27	24		Edge colour correction	
				0-255	Fine correction of the colour of the image edge (128=default)	proportional
27	24	28	25		Barndoors rotation	
				0-255	Rotation 0°--> 180° (128=default)	proportional
28	25	29	26		Barndoor 1 - movement	
				0-255	Movement from Outward to Inward (0=default)	proportional
29	26	30	27		Barndoor 2 - movement	
				0-255	Movement from Outward to Inward (0=default)	proportional
30	27	31	28		Barndoor 3 - movement	
				0-255	Movement from Outward to Inward (0=default)	proportional
31	28	32	29		Barndoor 4 - movement	
				0-255	Movement from Outward to Inward (0=default)	proportional
32	29	33	30		Shutter/ strobe	
				0 - 31	Shutter closed	step
				32 - 63	Shutter open (32=default)	step
				64 - 95	Strobe-effect from slow to fast	proportional
				96 - 127	Shutter open	step
				128 - 143	Opening pulse in sequences from slow to fast	proportional
				144 - 159	Closing pulse in sequences from fast to slow	proportional
				160 - 191	Shutter open	step
				192 - 223	Random strobe-effect from slow to fast	proportional
				224 - 255	Shutter open	step
33	30	34	31		Dimmer intensity	
				0 - 255	Dimmer intensity from 0% to 100% (0=default)	proportional
34	*	35	*		Dimmer intensity - fine	
				0 - 255	Fine dimming (0=default)	proportional
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