DMX protocol, CT Zoom module

CT	CTX	DMX Value	Percent	Function	Snap/ fade	Default DMX value
				Strobe/Virtual shutter effect		
		0 - 19	0 - 7	Shutter closed		
		20 - 49	8 - 19	Shutter open		
		50 - 64	20 - 25	Strobe (fast → slow)		
		65 - 69	26 - 27	Shutter open		
		70 - 84	28 - 33	Opening pulse (fast → slow)		
		85 - 89	34 - 35	Shutter open		
		90 - 104	36 - 41	Closing pulse (fast → slow)		
		105 - 109	42 - 43	Shutter open		
		110 - 124	44 - 49	Random strobe (fast → slow)		
		125 - 129	50 - 51	Shutter closed		
1	**1**	130 - 144	52 - 57	Random opening pulse (fast → slow)	**Snap**	**020**
		145 - 149	58 - 59	Shutter open		
		150 - 164	60 - 65	Random closing pulse (fast → slow)		
		165 - 169	66 - 67	Shutter closed		
		170 - 184	68 - 73	Burst pulse (fast → slow)		
		185 - 189	74 - 75	Shutter open		
		190 - 204	76 - 81	Random burst pulse (fast → slow)		
		205 - 209	82 - 83	Shutter closed		
		210 - 224	84 - 89	Sine wave (fast → slow)		
		225 - 229	90 - 91	Shutter open		
		230 - 244	92 - 97	Electronic burst (fast → slow)		
		245 - 255	98 - 100	Shutter open		
2	**2**			**Virtual dimmer**	**Fade**	**0**
		0 - 255	0 - 100	Closed → open		
				Dynamic effect 1		
		0 - 19	0 - 7	No Effect		
		20 - 39	7 - 16	Effect 1 - White Single Segment Chase		
		40 - 59	17 - 24	Effect 2 - White Double Segment Chase		
		60 - 189	25 - 73	No Effect		
		190 - 194	74 - 75	Effect 3 - White Flip 1		
		195 - 199	76 - 77	Effect 4 - White Flip 2		
		200 - 204	78 - 79	Effect 5 - White Flicker Chase		
		205 - 209	80 - 81	Effect 6 - Rising Pulse		
		210 - 214	82 - 83	Effect 7 - White Flicker		
		215 - 219	84 - 85	Effect 8 - Strobe Pulse		
—	**3**	220 - 224	86 - 87	Effect 9 - Single segment chase (set color temperature using Warm/Cold or CT)	**Snap**	**0**
		225 - 229	88 - 89	Effect 10 - Two segment chase (set color temperature using Warm/Cold or CT)		
		230 - 234	90 - 91	Effect 11 - Double horiz. seg. chase (set color temperature using Warm/Cold or CT)		
		235 - 239	92 - 93	Effect 12 - Double vert. seg. chase (set color temperature using Warm/Cold or CT)		
		240 - 244	94 - 95	Effect 13 - Double opposite chase (set color temperature using Warm/Cold or CT)		
		245 - 249	96 - 97	Effect 14 - Reserved for future use		
		250 - 255	98 - 100	Effect 15 - Reserved for future use		
				Dynamic effect 1 speed		
		0 - 2	0	Stop		
—	**4**	3 - 126	1 - 49	Clockwise rotation, fast → slow	**Fade**	**128**
		127 - 129	50	Stop		
		130 - 253	51 - 99	Counter-clockwise rotation, slow → fast		
		254 - 255	100	Stop		
—	**5**			**Dynamic effect 1 x-fade**	**Fade**	**0**
		0 - 255	0 - 100	No fade → max. fade		
—	**6**			**Dynamic effect 1 intensity**	**Fade**	**0**
		0 - 255	0 - 100	Zero → 100%		

Table 5: DMX Protocol, CT Zoom module

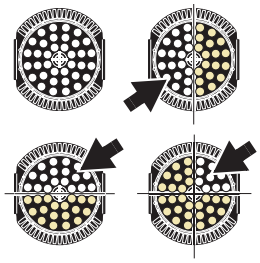
CT	CTX	DMX Value	Percent	Function	Snap/ fade	Default DMX value
—	7			**Dynamic effect 2**	**Snap**	**0**
		0 - 19	0 - 7	No effect		
		20 - 39	7 - 16	Effect 1 - White Single Segment Chase		
		40 - 59	17 - 24	Effect 2 - White Double Segment Chase		
		60 - 189	25 - 73	No effect		
		190 - 194	74 - 75	Effect 3 - White Flip 1		
		195 - 199	76 - 77	Effect 4 - White Flip 2		
		200 - 204	78 - 79	Effect 5 - White Flicker Chase		
		205 - 209	80 - 81	Effect 6 - Rising Pulse		
		210 - 214	82 - 83	Effect 7 - White Flicker		
		215 - 219	84 - 85	Effect 8 - Strobe Pulse		
		220 - 224	86 - 87	Effect 9 - Single segment chase (set color temperature using Warm/Cold or CT)		
		225 - 229	88 - 89	Effect 10 - Two segment chase (set color temperature using Warm/Cold or CT)		
		230 - 234	90 - 91	Effect 11 - Double horiz. seg. chase (set color temperature using Warm/Cold or CT)		
		235 - 239	92 - 93	Effect 12 - Double vert. seg. chase (set color temperature using Warm/Cold or CT)		
		240 - 244	94 - 95	Effect 13 - Double opposite chase (set color temperature using Warm/Cold or CT)		
		245 - 249	96 - 97	Effect 14 - Reserved for future use		
		250 - 255	98 - 100	Effect 15 - Reserved for future use		
—	8			**Dynamic effect 2 speed**	**Fade**	**128**
		0 - 2	0	Stop		
		3 - 126	1 - 49	Clockwise rotation, fast → slow		
		127 - 129	50	Stop		
		130 - 253	51 - 99	Counter-clockwise rotation, slow → fast		
		254 - 255	100	Stop		
—	9			**Dynamic effect 2 x-fade**	**Fade**	**0**
		0 - 255	0 - 100	No fade → max. fade		
—	10			**Dynamic effect 2 intensity**	**Fade**	**0**
		0 - 255	0 - 100	Zero → 100%		
3	11			**Zoom**	**Fade**	**0**
		0 - 200	0 - 77	Zoom wide → narrow		
		201 - 210	78 - 81	Hypermode		
		211 - 255	82 - 100	No function		
4	12			**Pan** [3]	**Fade**	**128**
		0 - 255	0 - 100	Pan 0 - 630° (128 = centered)		
5	13			**Pan fine**[3]	**Fade**	**0**
		0 - 255	0 - 100	Pan fine (Least Significant Byte)		
6	14			**Tilt** [3]	**Fade**	**128**
		0 - 255	0 - 100	Tilt 0 - 300° (128 = centered)		
7	15			**Tilt fine**[3]	**Fade**	**0**
		0 - 255	0 - 100	Tilt fine (Least Significant Byte)		

Table 5: DMX Protocol, CT Zoom module

CT	CTX	DMX Value	Percent	Function	Snap/ fade	Default DMX value
8	**16**			**Fixture control** [3]	**Snap**	**0**
		0 - 9	0 - 1	No function		
		10 - 14	2 - 3	Reset Entire fixture1		
		15 - 19	4 - 5	No function		
		20 - 24	6 - 7	Reset Effects only1		
		25 - 29	8 - 9	No function		
		30 - 34	10 - 11	Reset Pan & Tilt Only1		
		35 - 39	12 - 13	No function		
		40 - 44	14 - 15	PTSP = NORM[2]		
		45 - 49	16 - 17	PTSP = FAST[2]		
		50 - 54	18 - 19	No function		
		55 - 59	20 - 21	Reserved for Future Use		
		60 - 64	22 - 23	No function		
		65 - 69	24 - 25	Fan Mode - Full[2]		
		70 - 74	26 - 27	No function		
		75 - 79	28 - 29	Fan Mode - Regulated[2]		
		80 - 84	30 - 31	No function		
		85 - 89	32 - 33	Fan Mode - Silent[2]		
		90 - 94	34 - 35	No function		
		95 - 99	36 - 37	Dimmer Curve = LIN[2]		
		100 - 104	38 - 39	No function		
		105 - 109	40 - 41	Dimmer Curve = SQR[2]		
		110 - 114	42 - 43	No function		
		115 - 119	44 - 45	Dimmer Curve = ISQR[2]		
		120 - 124	46 - 47	No function		
		125 - 129	48 - 49	Dimmer Curve = SCUR[2]		
		130 - 249	50 - 97	No function, reserved for future use		
		250 - 255	98 - 100	Illuminate Display		
9	**17**			*Channel not used*		

The **PGRP** option in the control menu for the module defines which LEDs the following 4 channels control. See “Pixel grouping” on page 13. The channels can control:

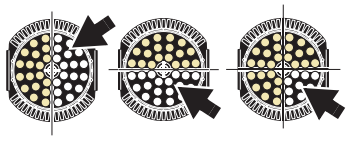
- All of the LEDs (**PGRP** set to “**ALL**”), or
- Group **A** of 2 vertically split LED groups (**PGRP** set to “**2V**” and four other channels control the opposite segment), or
- Group **A of** 2 horizontally split LED groups (**PGRP** set to “**2H**” and four other channels control the opposite segment), or
- Group **A** of 4 quadrant split LED groups (**PGRP** set to “**1**” and three groups of four other channels control the other three segments).



10	**18**	0 - 255	0 - 100	**Warm white – raw** CTC channel must be set to a DMX value from 0 - 19. Zero → 100%	**Fade**	**0**
11	**19**			*Channel not used*		
12	**20**	0 - 255	0 - 100	**Cold white – raw** CTC channel must be set to a DMX value from 0 - 9. Zero → 100%	**Fade**	**0**
13	**21**	0 - 19 20 - 255	0 - 7 8 - 100	**CTC (Color Temperature Control) – calibrated** No function, Warm and Cold channels (10 and 12 in CT mode/18 and 20 in CTX mode) enabled CTC 7 000 K → 3 000 K, Warm and Cold channels disabled	**Fade**	**0**

The following block of four channels is *only available and used if individual quarter or half groups of LEDs are to be controlled*. The level of control is set using the **PGRP** option in the control menu for the module. See “Pixel grouping” on page 13. When available, the channels control:

- Group **B** of 2 vertically split LED groups (**PGRP** set to “**2V**”), or
- Group **B** of 2 horizontally split LED groups (**PGRP** set to “**2H**”), or
- Group **B** of 4 quadrant split LED groups (**PGRP** set to “**1**”).



14	**22**	0 - 255	0 - 100	**Warm white – raw** CTC channel must be set to a DMX value from 0 - 19. Zero → 100%	**Fade**	**0**
15	**23**			*Channel not used*		
16	**24**	0 - 255	0 - 100	**Cold white – raw** CTC channel must be set to a DMX value from 0 - 9. Zero → 100%	**Fade**	**0**

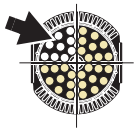
Table 5: DMX Protocol, CT Zoom module

CT	CTX	DMX Value	Percent	Function	Snap/ fade	Default DMX value
17	**25**	0 - 19 20 - 255	0 - 7 8 - 100	**CTC (Color Temperature Control) – calibrated** No function, Warm and Cold channels (14 and 16 in CT mode/22 and 24 in CTX mode) enabled CTC 7 000 K → 3 000 K, Warm and Cold channels disabled	**Fade**	**0**

The following four channels *are only available and used if individual quarter groups of LEDs are to be controlled (***PGRP** *is set to "***1***").* The level of control is set using the **PGRP** option in the control menu for the module. See "Pixel grouping" on page 13. The channels control Group **C** of quadrant split LEDs.

18	**26**	0 - 255	0 - 100	**Warm white – raw** CTC channel must be set to a DMX value from 0 - 19. Zero → 100%	**Fade**	**0**
19	**27**			*Channel not used*		
20	**28**	0 - 255	0 - 100	**Cold white – raw** CTC channel must be set to a DMX value from 0 - 9. Zero → 100%	**Fade**	**0**
21	**29**	0 - 19 20 - 255	0 - 7 8 - 100	**CTC (Color Temperature Control) – calibrated** No function, Warm and Cold channels (18 and 20 in CT mode/26 and 28 in CTX mode) enabled CTC 7 000 K → 3 000 K, Warm and Cold channels disabled	**Fade**	**0**

The following four channels *are only available and used if individual quarter groups of LEDs are to be controlled (***PGRP** *is set to "***1***").* The level of control is set using the **PGRP** option in the control menu for the module. See "Pixel grouping" on page 13. The channels control Group **D** of quadrant split LEDs.



22	**30**	0 - 255	0 - 100	**Warm white – raw** CTC channel must be set to a DMX value from 0 - 19. Zero → 100%	**Fade**	**0**
23	**31**			*Channel not used*		
24	**32**	0 - 255	0 - 100	**Cold white – raw** CTC channel must be set to a DMX value from 0 - 9. Zero → 100%	**Fade**	**0**
25	**33**	0 - 19 20 - 255	0 - 7 8 - 100	**CTC (Color Temperature Control) – calibrated** No function, Warm and Cold channels (22 and 24 in CT mode/30 and 32 in CTX mode) enabled CTC 7 000 K → 3 000 K, Warm and Cold channels disabled	**Fade**	**0**

Table 5: DMX Protocol, CT Zoom module

[1] If DMX Reset is disabled in the onboard control menus, a reset command can only be executed if channel 2 is set to DMX value 232 and channel 1 is set to zero.

[2]Menu override. Setting unaffected by power off/on

[3]If a CT Zoom module is fitted to the rear of the head, the pan/tilt and fixture control channels have no effect.