

# DMX CHANNEL FUNCTIONS AND VALUES

## RELATION SMARTY HYBRID

DMX Channel Values / Functions (34 DMX Channels)

**Supports Software Versions:  $\geq 1.2.1$**

Features are subject to change without any prior written notice.

\*Rotation direction (Clockwise or Counterclockwise) of effects depends on orientation of the fixture head and Pan/Tilt settings.

MODE / CHANNEL		VALUE	FUNCTION
STANDARD	EXTENDED		
1	1		PAN MOVEMENT
		0-255	PAN Movement
2	2		PAN FINE MOVEMENT FINE
		0-255	Fine 16-bit Control of PAN Movement
3	3		TILT MOVEMENT
		0-255	TILT Movement
4	4		TILT MOVEMENT
		0-255	Fine 16-bit Control of TILT Movement
5	5		CYAN COLOR
		0-255	0-WHITE ~ 255-100% CYAN
	6		CYAN COLOR FINE
		0-255	CYAN FINE 16-bit Adjustment
6	7		MAGENTA COLOR
		0-255	0-WHITE ~ 255-100% MAGENTA
	8		MAGENTA COLOR FINE
		0-255	MAGENTA FINE 16-bit Adjustment
7	9		YELLOW COLOR
		0-255	0-WHITE ~ 255-100% YELLOW
	10		YELLOW COLOR FINE
		0-255	YELLOW FINE 16-bit Adjustment

MODE / CHANNEL		VALUE	FUNCTION
STANDARD	EXTENDED		
8	11		<b>COLOR WHEEL</b>
		0-10	OPEN / WHITE
		11-19	RED - [RGB = 255, 0, 0]
		20-28	GREEN - [RGB = 0, 255, 0]
		29-37	YELLOW - [RGB = 255, 255, 0]
		38-46	MAGENTA - [RGB = 255, 0, 255]
		47-55	ORANGE - [RGB = 255, 102, 0]
		56-64	AQUA - [RGB = 10, 148, 22]
		65-73	PINK - [RGB = 217, 89, 153]
		74-82	CYAN - [RGB = 53, 227, 227]
		83-91	QUAD COLOR [R=163,8,8] [Y=242, 242,5] [B=11,71,212] [G=33,181,57]
		92-100	CTB - [RGB = 134, 165, 227]
		101-109	UV - [RGB = 70, 19, 173]
		110-118	CTO - [RGB = 209, 154, 92]
		119-127	BLUE - [RGB = 0, 51, 255]
		128-189	*Clockwise COLOR Rotation from FAST to SLOW
		190-193	NO Rotation
194-255	*Counter-Clockwise COLOR Rotation from SLOW to FAST		
	12		<b>COLOR WHEEL FINE ADJUSTMENT</b>
		0-255	FINE 16-bit Adjustment of Color Wheel to Any Position

MODE / CHANNEL		VALUE	FUNCTION
STANDARD	EXTENDED		
9	13		ROTATING GOBOS, CONTINUOUS ROTATION [WHEEL 1]
		0-10	BEAM OPEN
		11-21	SPOT OPEN
		22-31	Rotate Gobo 1
		32-41	Rotate Gobo 2
		42-51	Rotate Gobo 3
		52-61	Rotate Gobo 4
		62-71	Rotate Gobo 5
		72-81	Rotate Gobo 6
		82-91	Rotate Gobo 7
		92-101	Rotate Gobo 8
		102-112	Shake SLOW to FAST Gobo 1
		113-123	Shake SLOW to FAST Gobo 2
		124-134	Shake SLOW to FAST Gobo 3
		135-145	Shake SLOW to FAST Gobo 4
		146-156	Shake SLOW to FAST Gobo 5
		157-167	Shake SLOW to FAST Gobo 6
		168-178	Shake SLOW to FAST Gobo 7
		179-189	Shake SLOW to FAST Gobo 8
		190-221	*Counter-Clockwise Gobo Wheel Rotation from FAST to SLOW
222-223	RESERVED		
224-255	*Clockwise Gobo Wheel Rotation from SLOW to FAST		
10	14		ROTATING GOBOS, INDEX ROTATION [WHEEL 1]
		0-127	Gobo Indexing
		128-189	*Clockwise Gobo Rotation from FAST TO SLOW
		190-193	NO Rotation
		194-255	*Counter-Clockwise Gobo Rotation from SLOW to FAST
	15		ROTATING GOBOS, FINE INDEX ROTATION [WHEEL 1]
		0-255	Gobo Rotation FINE 16-bit Indexing

MODE / CHANNEL		VALUE	FUNCTION
STANDARD	EXTENDED		
11	16		<b>STATIC / FIXED GOBOS [GOBO WHEEL 2]</b>
		0-9	OPEN
		10-17	Static / Fixed Gobo 1
		18-25	Static / Fixed Gobo 2
		26-33	Static / Fixed Gobo 3
		34-41	Static / Fixed Gobo 4
		42-49	Static / Fixed Gobo 5
		50-57	Static / Fixed Gobo 6
		58-65	Static / Fixed Gobo 7
		66-73	Static / Fixed Gobo 8
		74-81	Static / Fixed Gobo 9
		82-89	Static / Fixed Gobo 10
		90-97	Static / Fixed Gobo 11
		98-105	Static / Fixed Gobo 12
		106-112	Shake SLOW to FAST Gobo 1
		113-119	Shake SLOW to FAST Gobo 2
		120-126	Shake SLOW to FAST Gobo 3
		127-133	Shake SLOW to FAST Gobo 4
		134-140	Shake SLOW to FAST Gobo 5
		141-147	Shake SLOW to FAST Gobo 6
		148-154	Shake SLOW to FAST Gobo 7
		155-161	Shake SLOW to FAST Gobo 8
		162-168	Shake SLOW to FAST Gobo 9
		169-175	Shake SLOW to FAST Gobo 10
		176-182	Shake SLOW to FAST Gobo 11
		183-189	Shake SLOW to FAST Gobo 12
		190-221	*Clockwise Gobo Wheel Rotation from FAST to SLOW
222-223	RESERVED		
224-255	*Counter-Clockwise Gobo Wheel Rotation from SLOW to FAST		
	17		<b>STATIC / FIXED GOBOS, FINE INDEX ROTATION [WHEEL 2]</b>
		0-255	Gobo Rotation FINE 16-bit Indexing

MODE / CHANNEL		VALUE	FUNCTION
STANDARD	EXTENDED		
12	18		<b>ROTATING PRISMS, PRISM / GOBO MACROS</b>
		0-31	OPEN
		32-64	16-Facet PRISM
		65- 94	4-Facet Linear PRISM
		95- 127	16 + 4 Facet PRISMS COMBINED
		128-135	Prism / Gobo Macro 1
		136-143	Prism / Gobo Macro 2
		144-151	Prism / Gobo Macro 3
		152-159	Prism / Gobo Macro 4
		160-167	Prism / Gobo Macro 5
		168-175	Prism / Gobo Macro 6
		176-183	Prism / Gobo Macro 7
		184-191	Prism / Gobo Macro 8
		192-199	Prism / Gobo Macro 9
		200-207	Prism / Gobo Macro 10
		208-215	Prism / Gobo Macro 11
		216-223	Prism / Gobo Macro 12
		224-231	Prism / Gobo Macro 13
232-239	Prism / Gobo Macro 14		
240-247	Prism / Gobo Macro 15		
248-255	Prism / Gobo Macro 16		
13	19		<b>ROTATING PRISMS, PRISMS INDEX ROTATION</b>
		0-127	Prism Indexing
		128-189	*Clockwise Prism Rotation from FAST to SLOW
		190-193	NO Rotation
		194-255	*Counter-Clockwise Prism Rotation from SLOW to FAST
	20		<b>ROTATING PRISMS, PRISMS FINE INDEX ROTATION</b>
		0-255	Gobo Rotation FINE 16-bit Indexing
14	21		<b>FOCUS</b>
		0-255	Continuous Adjustment from NEAR to FAR
	22		<b>FOCUS FINE</b>
		0-255	Continuous FINE 16-Bit Focus Adjustment

MODE / CHANNEL		VALUE	FUNCTION
STANDARD	EXTENDED		
15	23		<b>MOTORIZED ZOOM</b>
		0-255	ZOOM Adjustment from SMALL to BIG
	24		<b>MOTORIZED ZOOM FINE</b>
		0-255	ZOOM FINE 16-bit Adjustment
	25		<b>AUTO FOCUS</b>
			<b>SPOT MODE</b>
		0-31	AUTO FOCUS OFF
		32-59	26.2 ft (8m)
		60-87	29.5 ft (9m)
		88-115	32.8 ft (10m)
		116-143	36.0 ft (11m)
		144-171	39.4 ft (12m)
		172-199	42.7 ft (13m)
		200-227	46.0 ft (14m)
		228-255	49.2 ft (15m)
			<b>BEAM MODE</b>
		0-21	AUTO FOCUS OFF
		22-39	26.2 ft (8m)
		40-57	29.5 ft (9m)
		58-75	32.8 ft (10m)
		76-93	36.0 ft (11m)
		94-111	39.4 ft (12m)
		112-129	42.7 ft (13m)
		130-147	46.0 ft (14m)
		148-165	49.2 ft (15m)
		166-183	52.5 ft (16m)
		184-201	55.8 ft (17m)
		202-219	59.0 ft (18m)
		220-237	62.3 ft (19m)
238-255	65.6 ft (20m)		
	26		<b>AUTO FOCUS FINE</b>
		0-255	Continuous FINE 16-bit Focus Adjustment

MODE / CHANNEL		VALUE	FUNCTION
STANDARD	EXTENDED		
16	27		<b>SHUTTER, STROBE</b>
		0-31	Shutter CLOSED
		32-63	NO Function (Shutter OPEN)
		64-95	Strobe Effect SLOW to FAST
		96-127	NO Function (Shutter OPEN)
		128-159	Pulse Effect In Sequences
		160-191	NO Function (Shutter OPEN)
		192-223	Random Strobe Effect SLOW to FAST
		224-255	NO Function (Shutter OPEN)
17	28		<b>DIMMER INTENSITY</b>
		0-255	Intensity 0 to 100%
18	29		<b>DIMMER INTENSITY FINE</b>
		0-255	Intensity FINE 16-bit Adjustment 0 to 100%
19	30		<b>FROST</b>
		0-127	DISABLE FROST
		128-255	ENABLE FROST
	31		<b>GOBO / CMY / COLOR MACRO SPEED</b>
		0-255	MAX to MIN Speed

MODE / CHANNEL		VALUE	FUNCTION
STANDARD	EXTENDED		
			<b>CMY / COLOR MACROS</b>
		0-31	OFF
		32-39	Macro 1
		40-47	Macro 2
		48-55	Macro 3
		56-63	Macro 4
		64-71	Macro 5
		72-79	Macro 6
		80-87	Macro 7
		88-95	Macro 8
		96-103	Macro 9
		104-111	Macro 10
		112-119	Macro 11
		120-127	Macro 12
		128-135	Macro 13
	32	136-143	Macro 14
		144-151	Macro 15
		152-159	Macro 16
		160-167	Macro 17
		168-175	Macro 18
		176-183	Macro 19
		184-191	Macro 20
		192-199	Macro 21
		200-207	Macro 22
		208-215	Macro 23
		216-223	Macro 24
		224-231	Macro 25
		232-239	Macro 26
		240-247	Macro 27
		248-255	RANDOM CMY
			<b>PAN / TILT MOVEMENT SPEED</b>
		0-225	MAX to MIN Speed
	33	226-235	Blackout by PAN/TILT Movement
		236-245	Blackout by ALL WHEEL Movement
		246-255	NO FUNCTION

MODE / CHANNEL		VALUE	FUNCTION
STANDARD	EXTENDED		
20	34		LAMP ON/OFF, RESET, INTERNAL PROGRAMS
		0-19	COLOR Change Normal
		20-29	COLOR Change to Any Position
		30-39	RESERVED
		40-49	LAMP ON
		50-59	LAMP OFF
		60-66	LAMP POWER 190W
		67-73	LAMP POWER 240W
		74-79	LAMP POWER 280W
		80-84	All MOTORS Reset
		85-87	MOVEMENT Reset
		88-90	COLOR Reset
		91-93	GOBO Reset
		94-96	DIMMER Reset
		97-99	OTHER MOTORS Reset
		100-119	INTERNAL PROGRAM 1
		120-139	INTERNAL PROGRAM 2
		140-159	INTERNAL PROGRAM 3
		160-179	INTERNAL PROGRAM 4
		180-199	INTERNAL PROGRAM 5
200-219	INTERNAL PROGRAM 6		
220-239	INTERNAL PROGRAM 7		
240-255	RESERVED		

## DMX CHANNEL UPDATE WITH SOFTWARE VERSION $\geq 1.2.4$

See highlighted items below which have been updated with this software update.

MODE / CHANNEL		VALUE	FUNCTION	
STANDARD	EXTENDED			
20	34		LAMP ON/OFF, RESET, INTERNAL PROGRAMS	
		0-19	COOR Change Normal	
		20-29	COLOR Change to Any Position	
		30-39	RESERVED	
		40-49	LAMP ON	
		50-59	LAMP OFF	
		60-66	LAMP POWER 190W	
		67-73	LAMP POWER 240W	
		74-79	LAMP POWER 280W	
		80-84	All MOTORS Reset	
		85-87	MOVEMENT Reset	
		88-90	COLOR Reset	
		91-93	GOBO Reset	
		94-96	DIMMER Reset	
		97-99	OTHER MOTORS Reset	
		100-119	INTERNAL PROGRAM 1	
		120-139	INTERNAL PROGRAM 2	
		140-159	INTERNAL PROGRAM 3	
		160-179	INTERNAL PROGRAM 4	
		180-199	INTERNAL PROGRAM 5	
		200-219	INTERNAL PROGRAM 6	
		220-239	INTERNAL PROGRAM 7	
			240-243	RESERVED
			244-246	Home Position Before Power OFF
			247-249	Home Position OFF
			250-251	Display OFF
			252-253	Display ON
			254-255	RESERVED