

DMX PROTOCOL CHART TB 18 CHANNEL

DMX	Function	Description	Decimal	Perc	Hex
1	Pan	Pan Coarse (High)	0 - 255	0-100	00-FF
2	Pan	Pan Fine (Low)	0 - 255	0-100	00-FF
3	Tilt	Tilt Coarse (High)	0 - 255	0-100	00-FF
4	Tilt	Tilt Fine (Low)	0 - 255	0-100	00-FF
5	Color Function	Full Speed			
		Indexed	0 - 15	0-6	00-0F
		Forward Spin	16-31	6-12	10-1F
		Reverse Spin	32-47	13-18	20-2F
		Continuous	48-63	19-25	30-3F
		Slow Scan	64-79	25-31	40-4F
		Fast Scan	80-95	31-37	50-5F
		Random	96-111	38-44	60-6F
		Blink-Indexed	112-127	44-50	70-7F
		MSpeed Control			
		Indexed	128-143	50-56	80-8F
		Forward Spin	144-159	57-62	90-9F
		Reverse Spin	160-175	63-69	A0-AF
		Continuous	176-191	69-75	B0-BF
		Slow Scan	192-207	75-81	C0-CF
		Fast Scan	208-223	82-88	D0-DF
		Random	224-239	88-94	E0-EF
		Blink-Indexed	240-255	94-100	F0-FF
6	Color Wheel Position	Indexed and Blink Modes			
		Color 1	0-23	0-9	00-17
		Color 2	24-31	9-12	18-1F
		Color 3	32-39	13-15	20-27
		Color 4	40-47	16-18	28-2F
		Color 5	48-55	19-22	30-37
		Color 6	56-63	22-25	38-3F
		Color 7	64-71	25-28	40-47
		Color 8	72-79	28-31	48-4F
		Color 9	80-87	31-34	50-57
		Color 10	88-95	35-37	58-5F
		Color 11	96-103	38-40	60-67
		Color 12	104-111	41-44	68-6F
		Color 13	112-127	44-50	70-7F
		Color 1/2	128-143	50-56	80-8F
		Color 2/3	144-151	57-59	90-97

Color 3/4	152-159	60-62	98-9F	
Color 4/5	160-167	63-66	A0-A7	
Color 5/6	168-175	66-69	A8-AF	
Color 6/7	176-183	69-72	B0-B7	
Color 7/8	184-191	72-75	B8-BF	
Color 8/9	192-199	75-78	C0-C7	
Color 9/10	200-207	78-81	C8-CF	
Color 10/11	208-215	82-84	D0-D7	
Color 11/12	216-223	85-88	D8-DF	
Color 12/13	224-231	88-91	E0-E7	
Color 13/1	232-247	91-97	E8-F7	
Color 1	248-255	97-100	F8-FF	
Continuously Variable Mode				
Color 1	0	0	0	
Color 2	19	8	13	
Color 3	39	15	27	
Color 4	58	23	3A	
Color 5	78	31	4E	
Color 6	98	38	62	
Color 7	117	46	75	
Color 8	137	54	89	
Color 9	156	61	9C	
Color 10	176	69	B0	
Color 11	196	77	C4	
Color 12	215	84	D7	
Color 13	235	92	EB	
Color 1	255	100	FF	
Continuously Variable Forward Spin Mode				
Spin Stop	0-3	0-1	00-03	
Spin Forward Slowest	4	2	4	
Spin Forward Fastest	255	100	FF	
Continuously Variable Reverse Spin Mode				
Spin Stop	0-3	0-1	00-03	
Spin Reverse Slowest	4	2	4	
Spin Reverse Fastest	255	100	FF	
Random Mode				
Random Stop	0-3	0-1	00-03	
Random Slowest	4	2	4	
Random Fastest	255	100	FF	
7	Litho Wheel Function **	Full Speed		
	Indexed	0-15	0-5	00-0F
	Forward rotate	16-31	6-12	10-1F
	Reverse rotate	32-47	13-18	20-2F
	Scan	48-63	19-24	30-3F
	Blink	64-79	25-30	40-4F
	Random	80-95	31-37	50-6F

		RFU (Default-Random)*	96-111	38-42	60-6F
		Wheel spin	112-127	43-49	70-7F
		MSpeed Controlled			
		Indexed	128-143	50-55	80-8F
		Forward rotate	144-159	56-62	90-9F
		Reverse rotate	160-175	63-68	A0-AF
		Scan	176-191	69-74	B0-BF
		Blink	192-207	75-80	C0-CF
		Random	208-223	81-87	D0-DF
		RFU (Default-Random)*	224-239	88-93	E0-EF
		Wheel spin	240-255	94-100	F0-FF
8	Litho Wheel Position	Indexed Positions			
		Position 0 (Open)	0-15	0-6	00-0F
		Position 1	16-47	6-18	10-2F
		Position 2	48-79	19-31	30-4F
		Position 3	80-111	31-44	50-6F
		Position 4	112-143	44-56	70-8F
		Position 5	144-175	57-69	90-AF
		Position 6	176-207	69-81	B0-CF
		Position 7	208-239	82-94	D0-EF
		Position 0 (Open)	240-255	94-100	F0-FF
9	Litho Wheel Rotation (H)	Indexed and Blink modes			
	High Byte	Indexable Positions	0-255	0-100	0-FF
		Variable forward spin mode			
		Spin stop	0-3	0-1	00-03
		Spin forward slowest	4	2	4
		Spin forward fastest	225	100	FF
		Variable reverse spin mode			
		Spin stop	0-3	0-1	00-03
		Spin reverse slowest	4	2	4
		Spin reverse fastest	225	100	FF
		Continuously variable spin mode			
		Fastest forward spin	0	0	0
		Slowest forward spin	127	49	7F
		Slowest reverse spin	128	50	80
		Fastest reverse spin	255	100	FF
		Scan mode			
		Scan slowest	0	0	0
		Scan fastest	255	100	FF
		Random Mode (Pause Time)			
		Spin stop	0-3	0-1	00-03
		Random slowest	4	2	4
		Random fastest	255	100	FF
10	Litho Wheel 1 Rotation	Indexed Mode			
	Low Byte	Fine Adjust (16-bit)	0-255	0-100	0-FF
11	Effects Wheel	Full Speed			

		Position 0 (Open)	0-25	0-10	00-19
		Position 1	26-51	10-20	1A-33
		Position 2	52-76	20-30	34-4C
		Position 3	77-102	30-40	4D-66
		Position 4	103-127	40-50	67-7F
		MSpeed Controlled			
		Position 0 (Open)	128-153	50-60	80-99
		Position 1	154-178	60-70	9A-B2
		Position 2	179-204	70-80	B3-CC
		Position 3	205-229	80-90	CD-E5
		Position 4	230-255	90-100	E6-FF
12	Effects Rotate	Variable Ranges			
		Fastest Reverse Rotate	0	0	0
		Slowest Reverse Rotate	120	47	78
		Rotate Stop (Static)	121-134	48-53	79-86
		Slowest Forward Rotate	135	53	87
		Fastest Forward Rotate	255	100	FF
13	Focus	Variable Focus			
		Focus image closer	0	0	0
		Focus image farther	255	100	FF
14	Shutter	Normal			
		Close	0-7	0-2	00-07
		Open	248-255	97-100	F8-FF
		Strobe Effects (Variable Ranges)			
		Periodic Strobe	8-67	3-26	08-43
		Random Strobe	68-127	27-49	44-7F
		Ramp Open/Snap Shut	128-187	50-73	80-BB
		Snap Open/Ramp Shut	188-247	74-96	BC-F7
15	Dimmer	Variable Range			
		Closed	0	0	0
		Open	255	100	FF
16	MSpeed	Ranges			
		Controller crossfade	0-3	0-1	00-03
		Longest (252.7 sec.)	4	2	4
		Shortest (0.15 sec.)	255	100	FF
17	Macros / LAD	Selections			
		No Macro / LAD off	0-7	0-3	00-07
		Macro 1	8-11	3-4	08-0B
		Macro 2	12-15	5-6	0C-0F
		Macro 3	16-19	6-8	10-13
		Macro 4	20-23	8-9	14-17
		Macro 5	24-27	9-11	18-1B
		Macro 6	28-31	11-12	1C-1F
		Macro 7	32-35	13-14	20-23
		Macro 8	36-39	14-15	24-27
		Macro 9	40-43	16-17	28-2B

		Macro 10	44-47	17-18	2C-2F
		Macro 11	48-51	19-20	30-33
		Macro 12	52-55	20-22	34-37
		Macro 13	56-59	22-23	38-3B
		Macro 14	60-63	24-25	3C-3F
		Macro 15	64-67	25-26	40-43
		Macro 16	68-71	27-28	44-47
		Macro 17	72-75	28-29	48-4B
		Macro 18	76-79	30-31	4C-4F
		Macro 19	80-83	31-33	50-53
		Macro 20	84-87	33-34	54-57
		Macro 21	88-91	35-36	58-5B
		Macro 22	92-95	36-37	5C-5F
		Macro 23	96-99	38-39	60-63
		Macro 24	100-103	39-40	64-67
		Macro 25	104-107	41-42	68-6B
		Macro 26	108-111	42-44	6C-6F
		Macro 27	112-115	44-45	70-73
		Macro 28	116-119	46-47	74-77
		LAD Off / No Macros	120-127	48-50	78-7F
		LAD Modulate (Variable)	128-247	51-97	80-F7
		LAD On	248-255	98-100	F8-FF
18	Control	Selections			
	After choosing a control channel value, set the Shutter channel to "O" to access the Control channel settings Send "Shutdown" value for approximately two seconds	Safe (normal operation)	0-7	0-3	00-07
		Display off	24-26	9-10	18-1A
		Display dim	32-34	13	20-22
		Display bright	40-42	16	28-2A
		Home	64-66	25-26	40-42
		Lamp on	80-82	31-32	50-52
		Lamp off	96-98	38	60-62
		Shutdown	128-130	50-51	80-82
		Reserved	131-255	51-100	83-FF
	* Note: The space marked RFU reserved for future use will default to the Random mode. Users wishing to use the Random function are cautioned to program with the values listed for Random and Random at Mirror Speed only so that future protocols that make use of this RFU space do not necessitate reprogramming any shows.				
	** Litho Notes:				
	- Indexed mode: wheel position will snap to center of apertures.				
	- Blink mode is the same as Indexed mode except that the shutter will close during aperture-to-aperture movements				
	- Forward Spin and Reverse Spin modes: Rotational speed varies from slow to fast as the Litho Rotate High channel varies from 00h to FFh.				
	- Litho Scan: Scan dwell time is set by the Litho Rotate high an 8-bit value.				