

DMX protocol

Robin T1 Fresnel/Robin T1 PC - DMX protocol

Version: 1.2 Mode 1-CMY/RGB, Mode 2 -Reduced CMY/RGB, Mode 3-Five colours (R,G,B,A,Light Green)

Quick overview of default DMX values for each channel

Mode/channel			Default DMX Value	Function
1	2	3		
1	1	1	128	Pan
2	2	2	0	Pan Fine
3	3	3	128	Tilt
4	4	4	0	Tilt fine
5	5	5	0	Pan/Tilt speed , Pan/Tilt time
6	6	6	0	Power/Special functions
7	*	7	10	LED frequency selection
8	*	8	128	LED frequency fine adjusting
9	7	9	0	Colour functions
10	8	10	0	CRI selection
11	*	11	0	Virtual colour wheel
12	9	*	0/255	Cyan/Red (8 bit)
13	*	*	0/255	Cyan/Red (16 bit)
14	10	*	0/255	Magenta/Green (8 bit)
15	*	*	0/255	Magenta/Green (16 bit)
16	11	*	0/255	Yellow/Blue (8 bit)
17	*	*	0/255	Yellow/Blue (16 bit)
*	*	12	255	Red (8 bit)
*	*	13	255	Red (16bit)
*	*	14	255	Green (8 bit)
*	*	15	255	Green (16bit)
*	*	16	255	Blue (8 bit)
*	*	17	255	Blue (16bit)
*	*	18	255	Amber (8 bit)
*	*	19	255	Amber (16bit)
*	*	20	255	Light green (8 bit)
*	*	21	255	Light green (16bit)
18	12	22	110	Colour temperature correction (CTC)
19	*	23	128	Green correction
20	*	24	0	Colour mix control
21	*	25	0	Barndoors/Zoom/Frost time
22	13	26	0	Scrim positioning
23	14	27	128	Scrim indexing
24	15	28	0	Frost
25	16	29	128	Zoom
26	*	30	0	Zoom - fine
27	17	31	128	Edge colour correction
28	18	32	128	Barndoors rotation
29	19	33	0	Barndoor 1-movement
30	20	34	0	Barndoor 2-movement
31	21	35	0	Barndoor 3-movement
32	22	36	0	Barndoor 4-movement

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Mode/channel			Default DMX Value	Function	
1	2	3			
33	23	37	32	Shutter/ strobe	
34	24	38	0	Dimmer intensity	
35	*	39	0	Dimmer intensity - fine	
Mode/channel			DMX Value	Function	Type of control
1	2	3			
1	1	1		Pan	
			0 - 255	Pan movement by 540° (128=default)	proportional
2	2	2		Pan Fine	
			0 - 255	Fine control of pan movement (0=default)	proportional
3	3	3		Tilt	
			0 - 255	Tilt movement by 265° (128=default)	proportional
4	4	4		Tilt fine	
			0 - 255	Fine control of tilt movement (0=default)	proportional
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		Power/Special functions	
				Factory display menu setting: DMX Input-Wired ,Graphic display-On, Pan/tilt Mode-Speed,Blackout while pan/tilt moving-Off, Fans mode-Auto	
			0 -9	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 35/35/39 must be at range: 0-31 DMX). Corresponding menu items are temporarily overridden.</i>	
			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
			30-39	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
			60-69	Reserved	
			70-74	Fans mode: Auto	step
			75-79	Fans mode: High	step
			80-119	Reserved	
			120-124	Parking position On	step
			125-129	Parking position Off	step
				<i>To activate following functions, stop in DMX value for at least 3 seconds.</i>	

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Mode/channel			DMX Value	Function	Type of control
1	2	3			
			130 - 139	Fixture reset (except pan/tilt)	
			140 - 149	Pan/Tilt reset	step
			150 - 179	Reserved	
			180 - 189	Zoom/focus/frost/prism reset	step
			190 - 199	Barndoors/scrim reset	step
			200 - 209	Total fixture reset	step
			210-239	Reserved	
			240	Disabled "Quiet mode"	step
			241 - 255	"Quiet mode" - fan noise control from min. to max.	proportional
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		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	7	9		Colour functions	
				Factory display menu setting: Colour mixing mode-CMY, Dimmer Curve-Square Law, Tungsten effect simulation-Off, Chromatic white-Off, Light output stability-Off, Uniformity-Off	
			0	No function (0=default)	step

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Mode/channel			DMX Value	Function	Type of control
1	2	3			
				<i>To activate following functions, stop in DMX value for at least 3 seconds. Corresponding menu items are temporarily overridden</i>	
			1-39	Reserved	
			40-44	Colour mixing mode: CMY (DMX Mode 1 and 2 only)	step
			45-49	Colour mixing mode: RGB (DMX mode 1 and 2), RGBAL (DMX mode 3 only)	step
			50-54	Dimmer curve: Square law	step
			55-59	Dimmer curve: Linear	step
			60-79	Raw DMX	proportional
				<i>Tungsten effect simulation for whites 2700K-4200K only:</i>	
			80-84	Tungsten effect simulation (750W/80V): On	step
			85-89	Tungsten effect simulation (1000W/240V): On	step
			90-94	Tungsten effect simulation (1200W/240V): On	step
			95-99	Tungsten effect simulation (2000W/230V): On	step
			100-104	Tungsten effect simulation (2500W/230V): On	step
			105-109	Tungsten effect simulation: Off	step
			110-114	Save user colour (see user manual, chapter 5.1 Colour influencing functions)	step
			115-119	Chromatic white: On	step
			120-124	Chromatic white: Off	step
			125-129	Light output stability On	step
			130-134	Light output stability Off	step
			135-139	Uniformity On	step
			140-144	Uniformity Off	step
			145-255	Reserved	
10	8	10		CRI selection	
			0-255	CRI selection from Standard (80) to High (90+) (0=default)	proportional
11	*	11		Virtual colour wheel	
			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
			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

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Mode/channel			DMX Value	Function	Type of control
1	2	3			
			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
			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
			133-215	Reserved	
			216-217	User colour 1	step
			218-219	User colour 2	step

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Mode/channel			DMX Value	Function	Type of control
1	2	3			
			220-221	User colour 3	step
			222-223	User colour 4	step
			224-225	User colour 5	step
			226-227	User colour 6	step
			228-229	User colour 7	step
			230-231	User colour 8	step
			232-233	User colour 9	step
			234-235	User colour 10	step
			236-245	Rainbow effect (with fade time) from slow-> fast	proportional
			246-255	Rainbow effect (without fade time) from slow-> fast	proportional
12	9	*		Cyan/Red (8 bit)	
			0 - 255	Colour saturation control - coarse 0-100% (0=default for CMY mode, 255=default for RGB mode)	proportional
13	*	*		Cyan/Red (16 bit)	
			0 - 255	Colour saturation control - fine (0=default for CMY mode, 255=default for RGB mode)	proportional
14	10	*		Magenta/Green (8 bit)	
			0 - 255	Colour saturation control - coarse 0-100% (0=default for CMY mode, 255=default for RGB mode)	proportional
15	*	*		Magenta/Green (16 bit)	
			0 - 255	Colour saturation control - fine (0=default for CMY mode, 255=default for RGB mode)	proportional
16	11	*		Yellow/Blue (8 bit)	
			0 - 255	Colour saturation control - coarse 0-100% (0=default for CMY mode, 255=default for RGB mode)	proportional
17	*	*		Yellow/Blue (16 bit)	
			0 - 255	Colour saturation control - fine (0=default for CMY mode, 255=default for RGB mode)	proportional
*	*	12		Red (8 bit)	
			0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	13		Red (16bit)	
			0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	14		Green (8 bit)	
			0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	15		Green (16bit)	
			0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	16		Blue (8 bit)	
			0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	17		Blue (16bit)	
			0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	18		Amber (8 bit)	
			0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	19		Amber (16bit)	
			0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	20		Light green (8 bit)	
			0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	21		Light green (16bit)	
			0 - 255	colour saturation control - fine (255=default)	proportional
18	12	22		Colour temperature correction (CTC)	

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Mode/channel			DMX Value	Function	Type of control
1	2	3			
			0-1	8000 K	step
			2-64	Colour temperature changing 7978 K ->6622 K (22 K /1 DMX)	proportional
			65	6600 K	step
			66-109	Colour temperature changing 6578 K ->5622 K (22 K/1 DMX)	proportional
			110	5600 K (110=default)	step
			111-179	Colour temperature changing 5580 K ->4220 K (20 K/1 DMX)	proportional
			180	4200 K	step
			181-229	Colour temperature changing 4180 K ->3220 K (20 K/1 DMX)	proportional
			230	3200 K	step
			231-254	Colour temperature changing 3180 K ->2720 K (20K /1 DMX)	proportional
			255	2700K	step
19	*	23		Green correction	
			0	Uncorrected white	step
			1-127	Minus green --> uncorrected white	proportional
			128	Uncorrected white (128=default)	step
			129-254	Uncorrected white --> Plus green	proportional
			255	Uncorrected white	step
20	*	24		Colour mix control	
				<i>Defines relation between Virtual Colour wheel and colour channels</i>	
				"Virtual" = Virtual Colour Wheel	
				"Colour mix" = Colour channels (CMY/RGBALight Green/CTC)	
			0-9	"Virtual " has priority over "Colour mix" (0=default)	
			10-19	Maximum mode (highest values have priority)	step
			20-29	Minimum mode (lowest values have priority)	step
			30-39	Multiply mode (multiply "Virtual" and "Colour mix")	step
			40-49	Addition mode ("Virtual" + "Colour mix")	step
			50-59	Subtraction mode ("Virtual" – "Colour mix")	step
			60-69	Inverted Subtraction mode ("Colour mix"- "Virtual")	step
			70-79	White Point Off (CTC+Green Cor.+Virtual Colour Wheel deactivated)	step
			80-128	Reserved	
			129	Crossfade "Virtual" only	step
			130-254	Crossfade between "Virtual" and "Colour mix"	proportional
			255	Crossfade "Colour mix" only	step
21	*	25		Barndoors/Zoom/Frost time	
			0	Function is off (0=default)	step
			1 - 255	Time of barndoors, zoom and frost movement (0.1 sec-->25.5 sec.)	proportional
22	13	26		Scrim positioning	
			0	No function (0=default)	step
			1-255	Scrim inserting (0.5%-->100%)	proportional
23	14	27		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
24	15	28		Frost	
			0	Open (0=default)	step
				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

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Mode/channel			DMX Value	Function	Type of control
1	2	3			
			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
			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
25	16	29		Zoom	
			0 - 255	Zoom from max. to min. beam angle (128=default)	proportional
26	*	30		Zoom - fine	
			0-255	Fine zooming (0=default)	proportional
27	17	31		Edge colour correction	
			0-255	Fine correction of the colour of the image edge (128=default)	proportional
28	18	32		Barndoors rotation	
			0-255	Rotation 0°--> 180° (128=default)	proportional
29	19	33		Barndoor 1 - movement	
			0-255	Movement from Outward to Inward (0=default)	proportional
30	20	34		Barndoor 2 - movement	
			0-255	Movement from Outward to Inward (0=default)	proportional
31	21	35		Barndoor 3 - movement	
			0-255	Movement from Outward to Inward (0=default)	proportional
32	22	36		Barndoor 4 - movement	
			0-255	Movement from Outward to Inward (0=default)	proportional
33	23	37		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
34	24	38		Dimmer intensity	
			0 - 255	Dimmer intensity from 0% to 100% (0=default)	proportional
35	*	39		Dimmer intensity - fine	
			0 - 255	Fine dimming (0=default)	proportional

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Mode/channel			DMX Value	Function	Type of control
1	2	3			
All Specifications subject to change without notice					

Colour macros on Virtual Colour Wheel					
Colour name	Red DMX	Green DMX	Blue DMX	Amber DMX	Light Green DMX
Filter 4 (Medium Bastard Amber)	255	47	7	255	87
Filter 10 (Medium Yellow)	255	65	0	255	132
Filter 19 (Fire)	255	0	0	186	1
Filter 26 (Bright Red)	255	0	0	25	0
Filter 58 (Lavender)	255	0	68	255	44
Filter 68 (Sky Blue)	132	190	159	0	36
Filter 71 (Tokyo Blue)	0	0	255	0	0
Filter 79 (Just Blue)	123	147	171	0	56
Filter 88 (Lime Green)	255	237	2	198	185
Filter 90 (Dark Yellow Green)	0	255	2	0	169
Filter 100 (Spring Yellow)	255	0	0	255	223
Filter 101 (Yellow)	255	0	0	255	157
Filter 102 (Light Amber)	255	142	4	255	90
Filter 103 (Straw)	255	138	4	255	97
Filter 104 (Deep Amber)	255	0	0	255	124
Filter 105 (Orange)	255	0	0	255	60
Filter 106 (Primary Red)	255	0	0	104	0
Filter 111 (Dark Pink)	255	0	11	255	59
Filter 115 (Peacock Blue)	0	255	31	0	72
Filter 116 (Medium Blue-Green)	0	255	20	0	63
Filter 117 (Steel Blue)	45	255	42	158	225
Filter 118 (Light Blue)	4	255	37	0	77
Filter 119 (Dark Blue)	0	165	118	0	0
Filter 120 (Deep Blue)	3	165	111	0	0
Filter 121 (Filter Green)	84	255	0	235	24
Filter 128 (Bright Pink)	255	0	10	127	0
Filter 131 (Marine Blue)	0	255	75	51	116
Filter 132 (Medium Blue)	0	255	102	0	42
Filter 134 (Golden Amber)	255	51	0	255	42
Filter 135 (Deep Golden Amber)	255	35	0	255	0
Filter 136 (Pale Lavender)	184	7	51	255	60
Filter 137 (Special Lavender)	231	63	43	255	99
Filter 138 (Pale Green)	255	224	6	255	200
Filter 139 (Primary Green)	0	255	0	0	84
Filter 141 (Bright Blue)	0	255	77	0	82
Filter 147 (Apricot)	255	0	4	255	115
Filter 148 (Bright Rose)	255	0	7	255	13
Filter 152 (Pale Gold)	255	0	11	255	112
Filter 154 (Pale Rose)	255	0	16	255	119
Filter 157 (Pink)	255	0	7	255	27
Filter 158 (Deep Orange)	255	0	0	255	30
Filter 162 (Bastard Amber)	255	175	7	255	50
Filter 164 (Flame Red)	255	0	0	142	0
Filter 165 (Daylight Blue)	12	255	158	3	156
Filter 169 (Lilac Tint)	255	12	27	255	61
Filter 170 (Deep Lavender)	255	0	65	255	90

Colour name	Red DMX	Green DMX	Blue DMX	Amber DMX	Light Green DMX
Filter 172 (Lagoon Blue)	0	238	113	0	255
Filter 179 (Chrome Orange)	255	0	0	255	112
Filter 180 (Dark Lavender)	92	15	188	76	46
Filter 181 (Congo Blue)	185	0	214	0	0
Filter 197 (Alice Blue)	0	249	163	39	0
Filter 201 (Full C.T. Blue)	38	150	97	36	246
Filter 202 (Half C.T. Blue)	164	13	123	34	255
Filter 203 (Quarter C.T. Blue)	255	203	54	104	255
Filter 204 (Full C.T. Orange)	255	125	0	255	14
Filter 205 (Half C.T. Orange)	255	139	5	255	67
Filter 206 (Quarter C.T. Orange)	255	60	17	255	105
Filter 247 (Filter Minus Green)	255	28	36	255	56
Filter 248 (Half Minus Green)	255	20	45	255	200
Filter 281 (Three Quarter C.T. Blue)	38	255	102	136	227
Filter 285 (Three Quarter C.T. Orange)	255	0	0	255	121
Filter 352 (Glacier Blue)	16	255	119	5	149
Filter 353 (Lighter Blue)	14	255	66	0	157
Filter 715 (Cabana Blue)	0	222	182	0	0
Filter 778 (Millennium Gold)	255	0	0	255	37
Filter 793 (Vanity Fair)	255	0	26	171	0