

Media Server Version 2.0 DMX Protocol

All Media Servers utilize the same DMX protocol with the exception of a reduced number of graphic layers in DL.2 fixtures and original Axon media servers. DL.3 and DL.2 fixtures contain additional channels for Motion and Camera DMX control.

DL.3 and DL.2 Parameter Channel Assignment

Note: For Version 1 protocol, see the DL.3 or DL.2 Support page at www.highend.com.

DL.3 and DL.2 Mechanical Control

Parameter Name	DMX Chan #
Motion Functions	
Pan	1
	2
Tilt	3
	4
Dimmer	5
Focus	6
Zoom	7
Mspeed	8
Macro	9
Control Function	10

Parameter Name	DMX Chan #
Camera Functions (Not in DL.3F fixtures)	
Zoom	11
	12
Focus	13
	14
Infrared	15
Camera Shutter	16
White Balance	17
Camera Orientation	18
Camera Effects	19
Red Gain	20
Blue Gain	21

DL.3 and DL.2 Global Control

Parameter Name	DMX Chan #
Global Intensity	22
Global Effect 1	23
Global Effect 1 Modifier 1	24
Global Effect 1 Modifier 2	25
Global Effect 1 Modifier 3	26
Global Effect 2	27
Global Effect 2 Modifier 1	28
Global Effect 2 Modifier 2	29
Global Effect 2 Modifier 3	30
Global Effect 3	31
Global Effect 3 Modifier 1	32
Global Effect 3 Modifier 2	33
Global Effect 3 Modifier 3	34
Global Effect 4	35
Global Effect 4 Modifier 1	36
Global Effect 4 Modifier 2	37
Global Effect 4 Modifier 3	38
Global Effect 5	39
Global Effect 5 Modifier 1	40
Global Effect 5 Modifier 2	41
Global Effect 5 Modifier 3	42
Mask Select (default iris)	43
Mask Size	44
Mask Edge	45
Edge Fade Top	46
Edge Fade Right	47
Edge Fade Bottom	48
Edge Fade Left	49

Parameter Name	DMX Chan #
Keystone Top Left X	50
Keystone Top Left Y	51
Keystone Top Right X	52
Keystone Top Right Y	53
Keystone Bottom Right X	54
Keystone Bottom Right Y	55
Keystone Bottom Left X	56
Keystone Bottom Left Y	57
Keystone X Ratio	58
Keystone Y Ratio	59
Framing Top Left X	60
Framing Top Left Y	61
Framing Top Right X	62
Framing Top Right Y	63
Framing Bottom Right X	64
Framing Bottom Right Y	65
Framing Bottom Left X	66
Framing Bottom Left Y	67
Viewpoint mode	68
Viewpoint Position X	69
	70
Viewpoint Position Y	71
	72
Viewpoint Position Z	73
	74
Global Control	75
Global Control Modifier	76

DL.3 and DL.2 Graphic Object Control

Parameter Name	DMX Channel # (Objects 5-9 not available in DL.2 Servers)								
	Obj.1	Obj.2	Obj.3	Obj.4	Obj.5	Obj.6	Obj.7	Obj.8	Obj.9
Opacity	77	122	167	212	257	302	347	392	437
3-D Object File	78	123	168	213	258	303	348	393	438
Media Folder	79	124	169	214	259	304	349	394	439
Media file	80	125	170	215	260	305	350	395	440
In frame	81	126	171	216	261	306	351	396	441
	82	127	172	217	262	307	352	397	442
Out frame	83	128	173	218	263	308	353	398	443
	84	129	174	219	264	309	354	399	444
Play mode	85	130	175	220	265	310	355	400	445
Play speed	86	131	176	221	266	311	356	401	446
Sync Mode	87	132	177	222	267	312	357	402	447
Sync To	88	133	178	223	268	313	358	403	448
Visual mode	89	134	179	224	269	314	359	404	449
Visual Mode Modifier 1	90	135	180	225	270	315	360	405	450
Visual Mode Modifier 2	91	136	181	226	271	316	361	406	451
Graphic Effect 1	92	137	182	227	272	317	362	407	452
Effect 1 Modifier 1	93	138	183	228	273	318	363	408	453
Effect 1 Modifier 2	94	139	184	229	274	319	364	409	454
Effect 1 Modifier 3	95	140	185	230	275	320	365	410	455
Graphic Effect 2	96	141	186	231	276	321	366	411	456
Effect 2 Modifier 1	97	142	187	232	277	322	367	412	457
Effect 2 Modifier 2	98	143	188	233	278	323	368	413	458
Effect 2 Modifier 3	99	144	189	234	279	324	369	414	459
Graphic Effect 3	100	145	190	235	280	325	370	415	460
Effect 3 Modifier 1	101	146	191	236	281	326	371	416	461
Effect 3 Modifier 2	102	147	192	237	282	327	372	417	462
Effect 3 Modifier 3	103	148	193	238	283	328	373	418	463
X-axis rotation	104	149	194	239	284	329	374	419	464
	105	150	195	240	285	330	375	420	465
Y -axis rotation	106	151	196	241	286	331	376	421	466
	107	152	197	242	287	332	377	422	467
Z-axis rotation	108	153	198	243	288	333	378	423	468
	109	154	199	244	289	334	379	424	469
Scale X	110	155	200	245	290	335	380	425	470
	111	156	201	246	291	336	381	426	471
Scale Y	112	157	202	247	292	337	382	427	472
	113	158	203	248	293	338	383	428	473
Scale Z	114	159	204	249	294	339	384	429	474
	115	160	205	250	295	340	385	430	475
X Position	116	161	206	251	296	341	386	431	476
	117	162	207	252	297	342	387	432	477
Y Position	118	163	208	253	298	343	388	433	478
	119	164	209	254	299	344	389	434	479
Z Position	120	165	210	255	300	345	390	435	480
	121	166	211	256	301	346	391	436	481

Axon Media Server Parameter Channel Assignment

Note: For Version 1 protocol, see the Axon Support page at www.highend.com.

Axon Global Control

Parameter Name	DMX Chan #
Global Intensity	1
Global Effect 1	2
Global Effect 1 Modifier 1	3
Global Effect 1 Modifier 2	4
Global Effect 1 Modifier 3	5
Global Effect 2	6
Global Effect 2 Modifier 1	7
Global Effect 2 Modifier 2	8
Global Effect 2 Modifier 3	9
Global Effect 3	10
Global Effect 3 Modifier 1	11
Global Effect 3 Modifier 2	12
Global Effect 3 Modifier 3	13
Global Effect 4	14
Global Effect 4 Modifier 1	15
Global Effect 4 Modifier 2	16
Global Effect 4 Modifier 3	17
Global Effect 5	18
Global Effect 5 Modifier 1	19
Global Effect 5 Modifier 2	20
Global Effect 5 Modifier 3	21
Mask Select (default iris)	22
Mask Size	23
Mask Edge	24
Edge Fade Top	25
Edge Fade Right	26
Edge Fade Bottom	27
Edge Fade Left	28

Parameter Name	DMX Chan #
Keystone Top Left X	29
Keystone Top Left Y	30
Keystone Top Right X	31
Keystone Top Right Y	32
Keystone Bottom Right X	33
Keystone Bottom Right Y	34
Keystone Bottom Left X	35
Keystone Bottom Left Y	36
Keystone X Ratio	37
Keystone Y Ratio	38
Framing Top Left X	39
Framing Top Left Y	40
Framing Top Right X	41
Framing Top Right Y	42
Framing Bottom Right X	43
Framing Bottom Right Y	44
Framing Bottom Left X	45
Framing Bottom Left Y	46
Viewpoint mode	47
Viewpoint Position X	48
	49
Viewpoint Position Y	50
	51
Viewpoint Position Z	52
	53
Global Control	54
Global Control Modifier	55

Axon Graphic Object Control

Parameter Name	DMX Channel # (Objects 5-9 not available in Original Axon Servers)								
	Obj.1	Obj.2	Obj.3	Obj.4	Obj.5	Obj.6	Obj.7	Obj.8	Obj.9
Opacity	56	101	146	191	236	281	326	371	416
3-D Object File	57	102	147	192	237	282	327	372	417
Media Folder	58	103	148	193	238	283	328	373	418
Media file	59	104	149	194	239	284	329	374	419
In frame	60	105	150	195	240	285	330	375	420
	61	106	151	196	241	286	331	376	421
Out frame	62	107	152	197	242	287	332	377	422
	63	108	153	198	243	288	333	378	423
Play mode	64	109	154	199	244	289	334	379	424
Play speed	65	110	155	200	245	290	335	380	425
Sync Mode	66	111	156	201	246	291	336	381	426
Sync To	67	112	157	202	247	292	337	382	427
Visual mode	68	113	158	203	248	293	338	383	428
Visual Mode Modifier 1	69	114	159	204	249	294	339	384	429
Visual Mode Modifier 2	70	115	160	205	250	295	340	385	430
Graphic Effect 1	71	116	161	206	251	296	341	386	431
Effect 1 Modifier 1	72	117	162	207	252	297	342	387	432
Effect 1 Modifier 2	73	118	163	208	253	298	343	388	433
Effect 1 Modifier 3	74	119	164	209	254	299	344	389	434
Graphic Effect 2	75	120	165	210	255	300	345	390	435
Effect 2 Modifier 1	76	121	166	211	256	301	346	391	436
Effect 2 Modifier 2	77	122	167	212	257	302	347	392	437
Effect 2 Modifier 3	78	123	168	213	258	303	348	393	438
Graphic Effect 3	79	124	169	214	259	304	349	394	439
Effect 3 Modifier 1	80	125	170	215	260	305	350	395	440
Effect 3 Modifier 2	81	126	171	216	261	306	351	396	441
Effect 3 Modifier 3	82	127	172	217	262	307	352	397	442
X-axis rotation	83	128	173	218	263	308	353	398	443
	84	129	174	219	264	309	354	399	444
Y -axis rotation	85	130	175	220	265	310	355	400	445
	86	131	176	221	266	311	356	401	446
Z-axis rotation	87	132	177	222	267	312	357	402	447
	88	133	178	223	268	313	358	403	448
Scale X	89	134	179	224	269	314	359	404	449
	90	135	180	225	270	315	360	405	450
Scale X	91	136	181	226	271	316	361	406	451
	92	137	182	227	272	317	362	407	452
Scale Y	93	138	183	228	273	318	363	408	453
	94	139	184	229	274	319	364	409	454
Scale Z	95	140	185	230	275	320	365	410	455
	96	141	186	231	276	321	366	411	456
Y Position	97	142	187	232	277	322	367	412	457
	98	143	188	233	278	323	368	413	458
Z Position	99	144	189	234	279	324	369	414	459
	100	145	190	235	280	325	370	415	460

Parameter Description and Options

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
MECHANICAL CONTROL					
Movement Functions (DL.3, DL.2 fixtures only)					
Pan Course	Moves projector head from 0° to 400°	0-	0-100	32768	50
Pan Fine		65535			
Tilt Course	Moves projector head from 0° to 240°	0-	0-100	32768	50
Tilt Fine		65535			
Dimmer	Adjusts the mechanical iris located in front of the projector output lens from closed to open	0-255	0-100	0	0
Focus	Adjusts focus from near to far	0-255	0-100	128	50
Zoom	Adjusts zoom from narrow to wide	0-255	0-100	128	50
MSpeed	See Appendix B for conversion tables	0-255	0-100	0	0
Macro	Reserved for future use	0-255	0-100	0	0
Fixture Movement and Camera Control Options (Set Dimmer Channel = 0 except for MSpeed Off)					
Control Function <i>(To prevent inadvertent triggering, some Control Function options will not activate until the value has been held for a period of time. A number in parenthesis is the minimum number of consecutive times a DMX value must be received from a controller before the operation begins.)</i>	Pan and Tilt MSpeed off	10-13	NA	0	0
	Reserved	14-19			
	Menu Display Off (5)	20-28			
	Reserved	29			
	Menu Display Dim (5)	30-38			
	Reserved	39			
	Menu Display Bright (5)	40-48			
	Reserved	49			
	Preview	50-58			
	Reserved	59			
	Home All (20)	60-68			
	Reserved	69-79			
	Lamp ON (80)	80-88			
	Reserved	89			
	Lamp OFF (80)	90-98			
	Reserved	99-119			
	Shutdown (80)	120-130			
	Reserved	131-144			
	Graphics System Reset (80)	145-149			
	Camera Reset	150-155			
Home Pan/Tilt (20)	160-168				
Reserved	169				
Home Focus/Zoom/Iris (20)	170-178				
Reserved	179				

Parameter	Description	DMX Value		Default					
		Dec.	%	Dec.	%				
Control Function <i>(To prevent inadvertent triggering, some Control Function options will not activate until the value has been held for a period of time.</i> <i>A number in parenthesis is the minimum number of consecutive times a DMX value must be received from a controller before the operation begins.)</i>	Using the Projector's Menu System					0	0		
	Projector Up arrow	185-188							
	Projector Down arrow	189-192							
	Projector Left arrow	193-196							
	Projector Right arrow	197-200							
	Store menu selection	201-204							
	Projector Floor Orientation	Active Commands	205-208						
	Projector Ceiling Orientation		209-212						
	Projector Front Projection		213-216						
	Projector Rear Projection		217-220						
	Changing Projector Inputs (Set Dimmer Channel = 0)								
	External RGBHV to Projector	221-224		NA					
	Graphics Engine to Projector (default)	225-228							
	Changing Graphics Engine Inputs (Set Dimmer Channel = 0)								
	S-Video In to Graphic Engine, Internal Camera to Camera Out	229-232		NA					
	Internal Camera to Graphics Engine (default)	233-236							
	Setting Projector Lens Shift (Set Dimmer Channel = 0) Available only in DL.3 and DL.3F fixtures.								
	Lens Shift Engaged (100)	237-240		NA					
	Lens Shift Off (100)	241-244							
	Setting SDI Switching Mode Available only in DL.3 fixtures.								
Camera Routed to SDI Output (100)	245-248		NA						
SDI Input Routed to Capture Card (100)	249-252								
Reserved	253-255	99-100							

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Internal Camera Functions (DL.3 and DL.2 fixtures only, reserved in DL.3F fixtures)					
Camera Zoom	Zoom position	0-65535	0-100	32768	50
Camera Focus	Focus position.	0-511	0-100	0	0
	Manual Focus from In (Far End) to Out (Near End)	512-65535			
Infrared Illuminator	Camera's IR sensing off, illuminator off	0-63	0-24	0	0
	Camera's IR sensing on, illuminator off	64-127	25-49		
	Camera's IR sensing on, illuminator scaled across the range from FULL to OFF	128-255	50-100		
Camera Shutter	Auto Exposure = Full Auto	0-63	0-25	0	0
	Auto Exposure = Shutter Priority, Shutter Speed = 30	64-95	26-38		
	Auto Exposure = Shutter Priority, Shutter Speed = 15	96-126	39-49		
	Auto Exposure = Shutter Priority, Shutter Speed = 8	127-157	50-62		
	Auto Exposure = Shutter Priority, Shutter Speed = 4	158-188	63-74		
	Auto Exposure = Shutter Priority, Shutter Speed = 2	189-219	75-86		
	Auto Exposure = Shutter Priority, Shutter Speed = 1	220-255	87-100		
White Balance Mode	Auto Balance	0-63	0-25	0	0
	Indoor	64-95	26-38		
	Outdoor	96-127	39-49		
	Enable Manual Red and Blue gain value adjustment	128-191	50-74		
	Reserved - no change from previous state	192-255	75-100		
Camera Orientation	Flip OFF, Mirror OFF	0-63	0-25	0	0
	Flip OFF, Mirror ON	64-127	26-50		
	Flip ON, Mirror OFF	128-191	51-75		
	Flip ON, Mirror ON	192-255	76-100		
Camera Effects	Freeze Frame OFF, Negative Art, B&W OFF	0-63	0-25	0	0
	Freeze Frame ON, Negative Art, B&W OFF	64-127	26-49		
	Freeze Frame OFF, Negative Art, B&W ON	128-159	50-62		
	Freeze Frame ON, Negative Art, B&W ON	160-191	63-75		
	Freeze Frame OFF, B&W ON	192-223	76-88		
	Freeze Frame ON, B&W ON	224-255	89-100		
Red Gain	Red gain adjustment (Requires White Balance Mode = 128-191)	0-255	0-100	0	0
Blue Gain	Blue Gain adjustment (Requires White Balance Mode = 128-191)	0-255	0-100	0	0

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
GLOBAL FUNCTIONS					
Global Intensity	Selects intensity level for the composite image	0-255	0-100	255	100
Global Effects					
Global Effect Mode 1, 2, 3, 4 & 5	Off, no effects selection	0	0	0	0
	CMY simulates CMY by subtracting RGB. Reduces color values. Mod1 = cyan, Mod2 = magenta, Mod3 = yellow	1			
	CMY adds to all pixels. Increases color values. Mod1 = cyan, Mod2 = magenta, Mod3 = yellow	2			
	CMY adds to non-black pixels. Increases color values. Mod1 = cyan, Mod2 = magenta, Mod3 = yellow	3			
	RGB Add, all pixels. Mod1 = red, Mod2 = green, Mod3 = blue	4			
	RGB Add 2, all pixels. Mod1 = red, Mod2 = green, Mod3 = blue	5			
	RGB Add, non-black pixels. Mod1 = red, Mod2 = green, Mod3 = blue	6			
	RGB Swap to GBR. Mod1 = red, Mod2 = green, Mod3 = blue.	7			
	RGB Swap to BRG. Mod1 = red, Mod2 = green, Mod3 = blue.	8			
	Solarize 1 If color value < DMX value, invert color. Mod1 = red, Mod2 = green, Mod3 = blue.	9			
	Solarize 2 If color value > DMX, invert color. Mod1 = red, Mod2 = green, Mod3 = blue.	10			
	Solarize 3 If color value < DMX, set color to 0. Mod1 = red, Mod2 = green, Mod3 = blue.	11			
	Solarize 4 If color value > DMX, set color to 0. Mod1 = red, Mod2 = green, Mod3 = blue.	12			
	DotP and Resample. Mod1, Mod2 and Mod3 control resampling.	13	NA		
	Color Cycle, DMX value controls cycle speed. Mod1 = red, Mod2 = green, Mod3 = blue.	14			
	All or nothing. Mod1 = red, Mod2 = green, Mod3 = blue.	15			
	Solid color RGB, Mod1 = red, Mod2 = green, Mod3 = blue.	16			
	RGB Invert Mod1 = red to cyan, Mod2 = green to magenta, Mod3 = blue to yellow	17			
	RGB Invert & Swap to GBR. Mod1 = red to magenta, Mod2 = green to yellow, Mod3 = blue to cyan	18			
	RGB Invert & Swap to BRG. Mod1 = red to yellow, Mod2 = green to cyan, Mod3 = blue to magenta	19			
	Edge Detect Color. Mod1 = horizontal size, Mod2 = vertical search size, Mod3 = comparison threshold	20			
	Edge Detect B/W. Mod1 = horizontal size, Mod2 = vertical search size, Mod3 = comparison threshold	21			
	Texture Ripple, Horizontal. Mod1 = size, Mod2 = rate, Mod3 = offset	22			
	Texture Ripple, Vertical. Mod1 = size, Mod2 = rate, Mod3 = offset	23			
	Texture Ripple, Circular. Mod1 = size, Mod2 = rate, Mod3 = offset	24			
	Texture Ripple, Asymmetrical Circular. Mod1 = size, Mod2 = rate, Mod3 = offset	25			
	Transparent Color Fine. Select key color. Mod1 = red, Mod2 = green, Mod3 = blue	26			

Parameter	Description	DMX Value		Default		
		Dec.	%	Dec.	%	
Global Effect Mode 1, 2, 3, 4 & 5	Transparent Color Medium. Select key color. Mod1 = red, Mod2 = green, Mod3 = blue	27				
	Transparent Color Coarse. Select key color. Mod1 = red, Mod2 = green, Mod3 = blue	28				
	Transparent Color Invert, Fine. Select key color Mod1 = red, Mod2 = green, Mod3 = blue	29				
	Transparent Color Invert, Medium. Select key color Mod1 = red, Mod2 = green, Mod3 = blue	30				
	Transparent Color Invert, Coarse. Select key color Mod1 = red, Mod2 = green, Mod3 = blue	31				
	Scan Line. Mod1 selects scan line as texture, Mod2 fades from original image to converted image, Mod3 not used, reserved	32				
	Transparent wipes. Mod1 = width and transparent area, Mod2 = center of transparent area, Mod3 = transparency mode	33				
	Pixel Twist. Mod1 = x twist center, Mod2 = y twist center, Mod3 = direction and amount of twist	34				
	Picture-in-Picture. Mod1 = x subpicture center, Mod2 = y subpicture center, Mod3 = subpicture size	35				
	Magnifying lens, Mod1 = x lens center, Mod2 = y lens center, Mod3 lens size	36				
	Magnifying lens 2, Mod1 = x lens center, Mod2 = y lens center, Mod3 = lens size	37				
	Cartoon Edge. Mod1 = Edge Color, Mod2 = Contrast, Mod3 = Edge detection sensitivity	38				
	Color DeConverge. Mod1 = Moves red up, Mod2 = Moves green down and right, Mod3 = Moves blue down and left	39				
	Horizontal Mirror, Mod1 = mirror center, Mod2 and Mod3 not used	40	NA		0	0
	RGB Swap to BGR. Mod1 = red, Mod2 = green, Mod3 = blue	41				
	RGB Swap to RBG. Mod1 = red, Mod2 = green, Mod3 = blue	42				
	RGB Swap to GRB. Mod1 = red, Mod2 = green, Mod3 = blue	43				
	Colorize Gray Scale maps pixel intensity to color. Mod1 = Color Scheme selection, Mod2 = Zero intensity point in color scheme, Mod3 = Fading	44				
	Intensity key turns pixels of selected intensity transparent: Mod1 = Color Scheme, Mod2 = Intensity bandwidth, Mod3 = Transparency level	45				
	Raindrop effect. Mod1 = size/speed, Mod2 = position, and Mod3 = raindrop rate.	46				
	RGB Scale. Mod1 = scale red, Mod2 = scale green, Mod3 = scale blue. Maximum of Mod1, Mod2 and Mod3 sets overall color range	47				
	Tiling on. Mod1 = x-axis tile scale, Mod2 = y-axis tile scaler, Mod3 = space between lines	48				
	Color to Alpha. Mod1 = red to alpha, Mod2 = green to alpha, Mod3 = blue to alpha	49				
	Color to Alpha, Inverted. Mod1 = cyan to alpha, Mod2 = magenta to alpha, Mod3 = yellow to alpha	50				
	Texture Mixing. Mod1 = Source media file, Mod2 = Source effect level, Mod3 = Crossfade from original to source texture	51				
Image Scale and Rotate. Mod1 = scales image, Mod2 = rotation angle, Mod3 = rotation speed	52					
Film Roll. Mod1 = horizontal roll speed, Mod2 = vertical roll speed, Mod3 = Image scale	53					

Parameter	Description	DMX Value		Default		
		Dec.	%	Dec.	%	
Global Effect Mode 1, 2, 3, 4 & 5	Pixelate. Mod1 = Amount of pixelation, Mod2 = horizontal scale, Mod3 = vertical scale	54				
	Faux LED. Mod1 = "LED" size, Mod2 = spacing, Mod 3 = color peaking	55				
	Faux Tile. Mod1 = Tile size, Mod2 = spacing, Mod3 = color peaking	56				
	Fuzzifier. Mod1 = Horizontal distance, Mod2 = vertical distance, Mod3 = fuzz decay	57				
	Drop Shadow. Mod1 = horizontal size, Mod2 = vertical size, Mod3 = shadow opacity	58				
	Zoom Blur. Mod1 = horizontal position center, Mod2 = vertical position center, Mod3 = zoom	59				
	Chroma Shift. Mod1 = horizontal shift, Mod2 = vertical shift, Mod3 = Scale	60				
	ShakeNBake. Mod1 = horizontal shake, Mod2 = vertical shake, Mod3 = Scale	61				
	Slats, Vertical. Mod1 = number, Mod2 = displacement, Mod3 = fade	62				
	Slats, Horizontal. Mod1 = number, Mod2 = displacement, Mod3 = fade	63				
	Reserved. Defaults to effect mode = 0	64-79				
	Downward Vertical Streaks. Mod1 = start position, Mod2 = streak angle, Mod3 = fade	80				
	Gaussian Blur. Mod1 = sample distance, Mod2 = filter pass number, Mod3 = curve shape	81				
	Sharpen. Mod1 = sample distance, Mod2 = number of filter passes, Mod3 = sharpen scale	82				
	Flip, Mod1 = flip horizontally, Mod2 = flip vertically, Mod3 = not used	83				
	UV to Gray. Mod1 = U coordinate, Mod2 = V coordinate, Mod3 = Tolerance	84				
	UV to Transparent. Mod1 = U coordinate, Mod2 = V coordinate, Mod3 = Tolerance	85	NA		0	0
	UV Select to Transparent. Mod1 = U coordinate, Mod2 = V coordinate, Mod3 = Tolerance	86				
	HS to Gray. Mod1 = H coordinate, Mod2 = S coordinate, Mod3 = Tolerance	87				
	HS to Transparent. Mod1 = H coordinate, Mod2 = S coordinate, Mod3 = Tolerance	88				
	HSSelect to Transparent. Mod1 = H coordinate, Mod2 = S coordinate, Mod3 = Tolerance	89				
	Texture Shift. Mod1 = horizontal shift, Mod2 = vertical shift, Mod3 = colors and scale	90				
	Lens Grid. Mod1 = magnification, Mod2 = edge shading, Mod3 = number of lenses	91				
	Edge Detect BW2. Mod1 = Sample distance, Mod2 = edge threshold comparison, Mod3 = detected edge scaler	92				
	Film Burn. Mod1 = burn/unburn rate, Mod2 = film blackening, Mod3 = burn pattern	93				
	Film Noise. Mod1 = noise rate, Mod2 = push to sepia with/without jitter, Mod3 = noise level	94				
	Particle System 1. Mod1 = emitter type, Mod2 = trail length, Mod3 = particle acceleration	95				
	Particle System 2. Mod1 = number of particles, Mod2 = size of particles, Mod3 = emitter size	96				
	Particle System 3. Mod1 = particle initial velocity, Mod2 = particle rotation, Mod3 = particle life	97				
	Prism. Mod1 = number of facets, Mod2 = index of refraction, Mod3 = rotation	98				
Gaussian Halo. Mod1 = sample distance, Mod2 = number of filter passes, Mod3 = shape of Gaussian curve	99					

Parameter	Description	DMX Value		Default		
		Dec.	%	Dec.	%	
Global Effect Mode 1, 2, 3, 4 & 5	Scene Change Detect Mod1 = Scale RGB, Mod2 = RGB to Alpha, Mod3 = Scale color after alpha applied	100				
	Yxy Luminance Scaling. Mod1 = scale luminance (default 64), Mod2 = scale x (default 128), Mod3 = scale y (default 128)	101				
	Prerotation Translation. Mod1 = translate x, Mod2 = translate y, Mod3 = translate z.	102				
	Digital MSpeed. Mod1 = rotation mspeed. Mod2 = scaling mspeed. Mod3 = position mspeed	103				
	Reserved. Defaults to effect mode = 0	104-127				
	Mask Color. Mod1 = red, Mod2 = green, Mod3 = blue	128				
	Edge Fade color. Mod1 = red, Mod2 = green, Mod3 = blue	129				
	Mask Color and Edge Fade Color. Mod1 = red, Mod2 = green, Mod3 = blue	130				
	Background Color. Mod1 = red, Mod2 = green, Mod3 = blue	131				
	Background Color Cycle. Mod1 = red speed, Mod2 = green speed, Mod3 = blue speed	132				
	Edge Fade Profile. Mod1 = Mode, Mod2 = Profile, Mod3 = Source	133				
	Collage. Mod1 = grid style selection, Mod2 = grid portion displayed, Mod3 = edge blend adjustment	134				
	Curve Correction, Vertical Convex Cylinder. Mod1 = correction, Mod2 = adjusts vertical centerpoint, Mod3 = Not used	135				
	Curve Correction, Vertical Concave Cylinder. Mod1 = correction, Mod2 = adjusts vertical centerpoint, Mod3 = Not used	136				
	Curve Correction, Vertical Inside Corner. Mod1 = correction, Mod2 = adjusts vertical centerpoint, Mod3 = adjusts horizontal centerpoint	137	NA		0	0
	Curve Correction, Vertical Outside Corner. Mod1 = correction, Mod2 = adjusts vertical centerpoint, Mod3 = adjusts horizontal centerpoint	138				
	Curved Surface, Outside Sphere. Mod1 = correction, Mod2 = adjusts vertical centerpoint, Mod3 = adjusts horizontal centerpoint	139				
	Curved Surface, Inside Sphere. Mod1 = correction, Mod2 = adjusts vertical centerpoint, Mod3 = adjusts horizontal centerpoint.	140				
	Enhanced Collage Generator. Mod1 = grid style selection, Mod2 = grid portion displayed, Mod3 = edge blend.	141				
	Spherical Mapping. Outside. Mod1 = longitude angle, Mod2 = latitude angle, Mod3 = center latitude.	142				
	Spherical Mapping. Inside. Mod1 = longitude angle, Mod2 = latitude angle, Mod3 = center latitude.	143				
	Mattes. Mod1 = Mode, Mod2 = Matte Select, Mod3 = texture source	144				
	Enhanced Collage Wrap. Mod1 = array type, Mod2 = display cell, Mod3 = edge blending	145				
	Segmented Collage Generator. Mod1 = array type, Mod2 = display cell, Mod3 = edge blending	146				
Segmented Collage Generator Wrap. Mod1 = array type, Mod2 = display cell, Mod3 = edge blending	147					
Output Correction, Horizontal Convex Cylinder. Mod1 = correction, Mod2 = adjusts horizontal centerpoint, Mod3 = Not used	148					

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Global Effect Mode 1, 2, 3, 4 & 5	Output Correction, Horizontal Concave Cylinder. Mod1 = correction, Mod2 = adjusts horizontal centerpoint, Mod3 = Not used	149			
	Collage Gen 3, improves blending. Otherwise, the same as global effect 141. Mod1 = grid style selection, Mod2 = grid portion displayed, Mod3 = edge blend	150			
	Collage Gen 3 Wrap, improved blending. Otherwise, the same as global effect 145. Mod1 = grid style selection, Mod2 = grid portion displayed, Mod3 = edge blend	151			
	Segmented Collage Gen 3, improves edge blending. Otherwise, the same as global effect 146. Mod1 = grid style selection, Mod2 = grid portion displayed, Mod3 = edge blend	152	NA	0	0
	Segmented Collage Gen 3 Wrap, improves edge blending. Otherwise, the same as global effect 147. Mod1 = grid style selection, Mod2 = grid portion displayed, Mod3 = edge blend.	153			
	Reserved. Defaults to effect 0	154-252			
	Special value used with global spherical mapping effect 142. Defaults to 0 otherwise.	253			
	Special value used with global spherical mapping effect 142. Defaults to 0 otherwise.	254			
	Pan and Scan. Mod1 = horizontal position, Mod2 = vertical position, Mod3 = Zoom	255			
Global Effect Modifier 1	These Modifier parameters adjust the option selected in the corresponding channel of each of the five Global Effects Modes. The type of adjustment and the default value depends on the particular effect option. NOTE: Setting the Graphic Effect Mode DMX = 253 or 254 activates specific spherical mapping control options for Modifier parameters. For more about Modifier parameter functionality, see <i>Global Effect Mode Channels on page 114</i> , and specific effect options listed alphabetically in <i>Chapter 13</i> .	0-255	0-100		
Global Effect Modifier 2		0-255	0-100	NA	NA
Global Effect Modifier 3		0-255	0-100		
Global Mask					
Mask Select	Static Masks				
	Round <i>iris</i> closing from outside in	0	0		
	Round <i>iris</i> closing from inside out	1			
	Rectangle closing from outside in	2			
	Rectangle closing from inside out	3			
	Checkerboard, variation 1	4			
	Checkerboard, variation 2	5			
	Radial wipe, variation 1	6			
	Radial wipe, variation 2	7			
	Radial wipe, variation 3	8			
	Radial wipe, variation 4	9	NA	0	0
	Triangles, variation 1	10			
	Triangles, variation 2	11			
	Rectangular wrap	12			
	Tiles closing in	13			
	Horizontal doors, closing	14			
	Horizontal doors closing from opposing sides	15			
Vertical doors closing from outside in	16				
Vertical wipe closing from inside out	17				

Parameter	Description	DMX Value		Default		
		Dec.	%	Dec.	%	
Mask Select	Rectangular tiles closing from inside out 1	18	0	0	0	
	Rectangular tiles closing from inside out 2	19				
	Vertical panels closing from outside in 1	20				
	Vertical panels closing from outside in 2	21				
	Vertical diamonds 1	22				
	Vertical diamonds 2	23				
	Horizontal diamonds 1	24				
	Horizontal diamonds 2	25				
	Pinwheel	26				
	Oval Iris closing from outside in	27				
	Oval Iris closing from inside out	28				
	Oscillating iris closing from outside in	29				
	Artistic Iris	30				
	Reserved for other installed masks, defaults to 0	31-127				
	Strobing Masks					
	Periodic strobe, round "iris" mask closing outside in.	128	50	NA	0	0
	Round <i>iris</i> closing from inside out	129				
	Rectangle closing from outside in	130				
	Rectangle closing from inside out	131				
	Checkerboard, variation 1	132				
	Checkerboard, variation 2	133				
	Radial wipe, variation 1	134				
	Radial wipe, variation 2	135				
	Radial wipe, variation 3	136				
	Radial wipe, variation 4	137				
	Triangles, variation 1	138				
	Triangles, variation 2	139				
	Rectangular wrap	140				
	Tiles closing in	141				
	Horizontal doors, closing	142				
	Horizontal doors closing from opposing sides	143				
	Vertical doors closing from outside in	144				
	Vertical wipe closing from inside out	145				
Rectangular tiles closing from inside out 1	146					
Rectangular tiles closing from inside out 2	147					
Vertical panels closing from outside in 1	148					
Vertical panels closing from outside in 2	149					
Vertical diamonds 1	150					

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Mask Select	Vertical diamonds 2	151	NA	0	0
	Horizontal diamonds 1	152			
	Horizontal diamonds 2	153			
	Pinwheel	154			
	Oval Iris closing from outside in	155			
	Oval Iris closing from inside out	156			
	Oscillating iris closing from outside in	157			
	Animated Dynamic Iris	158			
	Reserved for other strobing installed masks	159-255			
Mask Size	Adjusts mask size from fully closed to open	0-255	0-100	255	100
Mask Edge Fade	Hard edge to faded edge when Mask Select = 0-127. Strobe rate control from fastest to slowest when Mask Select parameter value = 128-255	0-255	0-100	0	0
Global Image Edge Fade					
Image Edge Fade, Top	Adjusts the image's top edge diffusion from hard edge (0) to maximum fade (255)	0-255	0-100	0	0
Image Edge Fade, Right	Adjusts the image's right edge diffusion from hard edge (0) to maximum fade (255)	0-255	0-100	0	0
Image Edge Fade, Bottom	Adjusts the image's bottom edge diffusion from hard edge (0) to maximum fade (255)	0-255	0-100	0	0
Image Edge Fade, Left	Adjusts the image's left edge diffusion from hard edge (0) to maximum fade (255)	0-255	0-100	0	0
Global Keystone Correction					
Keystone X Top Left	Moves top left corner x value to center	0-255	0-100	0	0
Keystone Y Top Left	Moves top left corner y value to center	0-255	0-100	0	0
Keystone X Top Right	Moves top right corner x value to center	0-255	0-100	0	0
Keystone Y Top Right	Moves top right corner y value to center	0-255	0-100	0	0
Keystone X Bottom Right	Moves bottom right corner x value to center	0-255	0-100	0	0
Keystone Y Bottom Right	Moves bottom right corner y value to center	0-255	0-100	0	0
Keystone X Bottom Left	Moves bottom left corner x value to center	0-255	0-100	0	0
Keystone Y Bottom Left	Moves bottom left corner y value to center	0-255	0-100	0	0
Keystone X Ratio	Compresses and expands image horizontally	0-255	0-100	128	50
Keystone Y Ratio	Compresses or expands image vertically	0-255	0-100	128	50

Parameter	Description	DMX Value		Default		
		Dec.	%	Dec.	%	
Global Framing						
Framing X Top Left	Clip image from top left corner x value	0-255	0-100	0	0	
Framing Y Top Left	Clip image from top left corner y value	0-255	0-100	0	0	
Framing X Top Right	Clip image from top right corner x value	0-255	0-100	0	0	
Framing Y Top Right	Clip image from top right corner y value	0-255	0-100	0	0	
Framing X Bottom Right	Clip image from bottom right corner x value	0-255	0-100	0	0	
Framing Y Bottom Right	Clip image from bottom right corner y value	0-255	0-100	0	0	
Framing X Bottom Left	Clip image from bottom left corner x value	0-255	0-100	0	0	
Framing Bottom Left	Clip image from bottom left corner y value	0-255	0-100	0	0	
Global Viewpoint						
Viewpoint Mode	Perspective View, Spherical Coordinates				0	0
	Look at point: center of universe		0	0		
	Look at point: graphic 1		1	NA		
	Look at point: graphic 2		2			
	Look at point: graphic 3		3			
	Perspective View, Cartesian Coordinates					
	Look at point: center of universe		4	NA		
	Look at point: graphic 1		5			
	Look at point: graphic 2		6			
	Look at point: graphic 3		7			
	Orthogonal View, Cartesian Coordinates					
	Look at point: center of universe		8	NA		
	Look at point: graphic 1		9			
	Look at point: graphic 2		10			
	Look at point: graphic 3		11			
	Perspective View, Spherical Coordinates					
	Look at point: graphic 4		12	NA		
	Look at point: graphic 5		13			
	Look at point: graphic 6		14			
	Look at point: graphic 7		15			
Look at point: graphic 8		16				
Look at point: graphic 9		17				

Parameter	Description	DMX Value		Default				
		Dec.	%	Dec.	%			
Viewpoint Mode	Perspective View, Cartesian Coordinates							
	Look at point: graphic 4	18	NA	0	0			
	Look at point: graphic 5	19						
	Look at point: graphic 6	20						
	Look at point: graphic 7	21						
	Look at point: graphic 8	22						
	Look at point: graphic 9	23						
	Orthogonal View, Cartesian Coordinates							
	Look at point: graphic 4	24	NA					
	Look at point: graphic 5	25						
	Look at point: graphic 6	26						
	Look at point: graphic 7	27						
	Look at point: graphic 8	28						
	Look at point: graphic 9	29						
Viewpoint Mode	Additional Effects							
	Reserved	30-127						
	Variable Edge Blend	128						
	Reserved	129-255						
Viewpoint X Position	Maximum horizontal angle clockwise	0	0-	32768	50			
	Center	32768	50					
	Maximum horizontal angle counterclockwise	65535	100					
Viewpoint Y Position	Maximum Vertical angle clockwise	0	0-	32768	50			
	Center	32768	50					
	Maximum Vertical angle counterclockwise	65535	100					
Viewpoint Z Position (Zoom)	Maximum distance from origin in front of view target	0	0	30260	49			
	Center	32768	50					
	Maximum distance from origin behind view target	65535	100					

Parameter	Description	DMX Value		Default		
		Dec.	%	Dec.	%	
Global Control						
Global Control <i>(A number in parenthesis is the minimum number of consecutive times a DMX value must be received from a controller before the operation begins.)</i>	No control selected. Safe	0	0	NA	0	0
	Reserved	1-119				
	Axon Shutdown when Intensity = 0 (80)	120-130				
	Reserved	131-144				
	Reset when Intensity = 0 (80)	145-149				
	Reserved	150-251				
	Spherical Control Statistics (Global Control Modifier Parameter selects text color)	252				
	All-in-One displays an array that includes each layer's output, each layer's combined output, and any spherical effects applied.	253				
	Performance Statistics	254				
	On-screen Statistics	255				
Global Control Modifier	All-in-one Combined Quadrant (Global Control Channel = 253)				0	0
	Displays each defined Graphic Object with no effects applied	0	0			
	Displays the first effect (if any) applied to any defined Graphic Object	1	NA			
	Displays the second effect (if any) applied to any defined Graphic Object	2				
	Displays the third effect (if any) applied to any defined Graphic Object	3				
	Displays the fourth effect (if any) applied to any defined Graphic Object	4				
	Displays the fifth effect (if any) applied to any defined Graphic Object	5				
	Displays the sixth effect (if any) applied to any defined Graphic Object	6				
	Displays the seventh effect (if any) applied to any defined Graphic Object	7				
	Displays the eighth effect (if any) applied to any defined Graphic Object	8				
	Displays the ninth effect (if any) applied to any defined Graphic Object	9				
	Reserved. Reverts to raw image display	10-255				
	On-screen Statistics (Global Control Channel = 252 or 255)					
	Text color = gray	0	NA			
	Text color = red	1				
	Text color = blue	2				
	Text color = green	3				
	On-screen Statistics (Global Control Channel = 254)					
	Controls opacity from full to transparent	0-255	NA			

Parameter	Description	DMX Value		Default		
		Dec.	%	Dec.	%	
GRAPHIC OBJECT FUNCTIONS						
Opacity	Selects transparency level from completely transparent (0) to opaque (255)	0-255	0-100	0	0	
Graphic Content Definition						
3-D Object File	No selection	0	0	1	1	
	First Stock 3-D Object (flat plane)	1	1			
	Additional Stock 3-D Objects	2-149	NA			
	First User 3-D Objects	150				
	Additional User Objects	151-255				
Media Folder	No selection	0	NA	0	0	
	HES Folder 1	1				
	HES Folders 2- 40	2-40				
	First User Folder 41	41				
	User Folders 42-239	42-239				
	Reserved	240-254				
	Video capture. The Media File parameter selects S Video or SDI input. Other Media file values are ignored. NOTE: SDI available with DL.3 and Axon only.	255				
Media File Selection (Media Folder Channel = 0-254)						
Media File	No selection	0	0	0	0	
	First Media File	1	NA			
	Additional Media Files 2-255	2-255				
	Video Capture Selection (Media Folder Channel = 0-255)					
	No Video capture source selected	0	0	0	0	
	SVideo capture source	1	NA			
	Standard Definition (SD) SDI capture source, if installed	2				
	SVideo capture source 2, if installed. Available with Axon server only	3				
	SD SDI capture source 2, if installed. Available with Axon server only	4				
	High Definition (HD) SDI source 1, if installed. Available with Axon server only	5				
	High Definition (HD) SDI source 2, if installed. Available with Axon server only	6				
	High Definition (HD) SDI source 3, if installed. Available with Axon server only	7				
	High Definition (HD) SDI source 4, if installed. Available with Axon server only	8				
	In Frame	Defines the beginning of a media file segment as a percentage of the movie length				0-65535
Out Frame	Defines the end of a Media File segment as a percentage of the movie length	0-65535		0-100	65535	100

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Play Mode	Play forward looping continuously	0	0	0	0
	Play forward once and hold on the last frame	1			
	Pause	2			
	Play forward if opacity > 0, hold on last frame	3			
	Play forward if opacity > 0, looping continuously	4			
	Pause and rewind to In Frame	5	NA		
	Scrub (Display) the selected In Frame	6			
	Scrub (Display) the selected Out Frame	7			
	Scrub (Display) the selected In Frame with statistics	8			
	Scrub (Display) the selected Out Frame with statistics	9			
	Reserved	10-255	3-100		
Play Speed	Normal Speed	0	0	128	50
	Slow speeds from slowest toward normal	1-127	1-49		
	Normal Speed	128	50		
	Faster than Normal to Fastest	129-255	51-100		
Graphic Synchronization					
Sync Type	No selection	0	0	0	0
	Sync to Graphic 1 movie time	1			
	Sync to Graphic 2 movie time	2			
	Sync to Graphic 3 movie time	3			
	Sync to Object 1 rotation	4			
	Sync to Object 2 rotation	5			
	Sync to Object 3 rotation	6			
	Sync to reverse Object 1 rotation	7			
	Sync to reverse Object 2 rotation	8			
	Sync to reverse Object 3 rotation	9			
	Sync to Graphic 1 movie time and Object 1 rotation	10			
	Sync to Graphic 2 movie time and Object 2 rotation	11	NA		
	Sync to Graphic 3 movie time and Object 3 rotation	12			
	Sync to Graphic 1 movie time and Object 1 reverse rotation	13			
	Sync to Graphic 1 movie time and Object 2 reverse rotation	14			
	Sync to Graphic 1 movie time and Object 3 reverse rotation	15			
	Sync to Graphic 4 movie time	16			
	Sync to Graphic 5 movie time	17			
	Sync to Graphic 6 movie time	18			
	Sync to Graphic 7 movie time	19			
	Sync to Graphic 8 movie time	20			
Sync to Graphic 9 movie time	21				

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Sync Type	Sync to Object 4 rotation	22			
	Sync to Object 5 rotation	23			
	Sync to Object 6 rotation	24			
	Sync to Object 7 rotation	25			
	Sync to Object 8 rotation	26			
	Sync to Object 9 rotation	27			
	Sync to Object 4 reverse rotation	28			
	Sync to Object 5 reverse rotation	29			
	Sync to Object 6 reverse rotation	30			
	Sync to Object 7 reverse rotation	31			
	Sync to Object 8 reverse rotation	32			
	Sync to Object 9 reverse rotation	33			
	Sync to Graphic 4 movie time and Object 4 rotation	34	NA	0	0
	Sync to Graphic 5 movie time and Object 5 rotation	35			
	Sync to Graphic 6 movie time and Object 6 rotation	36			
	Sync to Graphic 7 movie time and Object 7 rotation	37			
	Sync to Graphic 8 movie time and Object 8 rotation	38			
	Sync to Graphic 9 movie time and Object 9 rotation	39			
	Sync to Graphic 4 movie time and Object 4 reverse rotation	40			
	Sync to Graphic 5 movie time and Object 5 reverse rotation	41			
	Sync to Graphic 6 movie time and Object 6 reverse rotation	42			
	Sync to Graphic 7 movie time and Object 7 reverse rotation	43			
Sync to Graphic 8 movie time and Object 8 reverse rotation	44				
Sync to Graphic 9 movie time and Object 9 reverse rotation	45				
Reserved. Defaults to mode 0, no selection.	46-255				
Sync To	No Selection	0			
	Sync to Fixture ID Number 1	1			
	Sync to Fixture ID Number 2 ...	2 ...	NA	0	0
	Sync to Fixture Number 254	254			
	Sync to Fixture ID Number 255	255			

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Graphic Object Effects					
Visual Mode	Off. No visual mode processing applied to output.	0	0		
	Content Optimization. Mod1 = black level, Mod2 = contrast.	1			
	Sepia tones. Mod1 fades from original color to sepia colors. Mod2 controls saturation.	2			
	Red tones. Mod1 fades from original color to red tones. Mod2 controls saturation.	3			
	Gray maker. Mod1 compresses colors to shades of gray. Mod2 adjusts contrast	4			
	Gray maker2. Always gray. Mod1 = brightness, Mod2 = contrast	5			
	Posterizer. Mod1 reduces color detail. Mod2 adjusts contrast.	6			
	Color to Black & White. Mod1 fades color RGB @ 0 to B/W @ 50% to white @100%. Mod2 = not used.	7			
	Fire Gradient, Mod1fades original to converted Mod2 not used.	8			
	Negative Art. Mod1 fades from original image to converted image, Mod2 subtracts red from 0-128, subtracts green from 129-255.	9	NA	0	0
	Exposure Control. Mod1 adjusts color contrast, Mod2 adjusts color shift	10			
	Invert B&W, Keep Color. Mod1 = black comparison level, Mod2 = white comparison level	11			
	Texture Mixing. Mod1 = Source media file, Mod2 = Crossfade from original to source texture	12			
	Image Scale and Rotate. Mod1 = image scale, Mod2 = rotation angle.	13			
	Film Roll. Mod1 = horizontal roll speed, Mod2 = Vertical roll speed	14			
	Pixelate. Mod1 = amount of pixelation, Mod 2 not used	15			
	Faux LED. Mod1 = "LED" size, Mod2 = spacing	16			
Faux Tile. Mod1 = Tile size, Mod2 = spacing	17				
Visual Mode	Fuzzifier. Mod1 = x-axis distance, Mod2 = y-axis distance	18			
	Drop Shadow. Mod1 = horizontal shadow size, Mod2 = vertical shadow size	19			
	Zoom Blur. Mod1 = horizontal position center, Mod2 = vertical position center	20			
	Chroma Shift. Mod1 = horizontal shift, Mod2 = vertical shift	21			
	ShakeNBake. Mod1 = horizontal shake, Mod2 = vertical shake	22	NA	0	0
	CTO/CTB. Mod1 = push to orange, Mod2 = push to blue	23			
	Flip. Mod1 = flip horizontally, Mod2 = flip vertically	24			
	Reserved (Defaults to 0)	25-254			
	Pan and Scan. Mod1 = horizontal position, Mod2 = vertical position	255			
Visual Mode Modifier 1	Adjusts option selected in the Visual Mode Parameter	0-255	0-100	NA	NA
Visual Mode Modifier 2	The type of adjustment and the default value depends on the particular visual mode option selected. For more about Visual Mode Modifier parameter functionality, see, <i>Visual Mode on page 80</i> and <i>Visual Mode Options on page 82</i> .	0-255	0-100		

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Graphic Effect Mode 1, 2 & 3	Off, no effects selection	0	0	NA	0
	CMY simulates CMY by subtracting RGB (reduces color values) Mod1 = cyan, Mod2 = magenta, Mod3 = yellow	1			
	CMY Add to All Pixels increases color values. Mod1 = cyan, Mod2 = magenta, Mod3 = yellow	2			
	CMY Add to Non-black Pixels increases color values. Mod1 = cyan, Mod2 = magenta, Mod3 = yellow	3			
	RGB Add All Pixels. Mod1 = red, Mod2 = green, Mod3 = blue	4			
	RGB Add 2 All Pixels. Mod1 = red, Mod2 = green, Mod3 = blue	5			
	RGB Add, non-black pixels. Mod1 = red, Mod2 = green, Mod3 = blue	6			
	RGB Swap to GBR. Mod1 = red, Mod2 = green, Mod3 = blue.	7			
	RGB Swap to BRG. Mod1 = red, Mod2 = green, Mod3 = blue.	8			
	Solarize 1 (if color value < DMX value, invert color). Mod1 = red, Mod2 = green, Mod3 = blue.	9			
	Solarize 2 (if color value > DMX, invert color). Mod1 = red, Mod2 = green, Mod3 = blue.	10			
	Solarize (if color value < DMX, color = 0). Mod1 = red, Mod2 = green, Mod3 = blue.	11			
	Solarize 4 (if color value > DMX, color = 0). Mod1 = red, Mod2 = green, Mod3 = blue.	12			
	DotP and Resample. Mod1, Mod2 and Mod3 control resampling.	13			
	Color Cycle (DMX value controls cycle speed) Mod1 = red, Mod2 = green, Mod3 = blue.	14			
	All or Nothing (Color value greater than Mod value, color = 255, else color = 0) Mod1 = red, Mod2 = green, Mod3 = blue.	15			
	Solid Color RGB. Mod1 = red, Mod2 = green, Mod3 = blue.	16			
	RGB Invert. Mod1 = red to cyan, Mod2 = green to magenta, Mod3 = blue to yellow	17			
	RGB Invert & Swap to GBR. Mod1 = red to magenta, Mod2 = green to yellow, Mod3 = blue to cyan	18			
	RGB Invert & Swap to BRG. Mod1 = red to yellow, Mod2 = green to cyan, Mod3 = blue to magenta	19			
	Edge Detect Color. Mod1 = horizontal size, Mod2 = vertical search size, Mod3 = comparison threshold	20			
	Edge Detect B/W Mod1 = horizontal size, Mod2 = vertical search size, Mod3 = comparison threshold	21			
	Texture Ripple, Horizontal. Mod1 = size, Mod2 = rate, Mod3 = offset	22			
	Texture Ripple, Vertical. Mod1 = size, Mod2 = rate, Mod3 = offset	23			
	Texture Ripple, Circular. Mod1 = size, Mod2 = rate, Mod3 = offset	24			
	Texture Ripple, Asymmetrical Circular. Mod1 = size, Mod2 = rate, Mod3 = offset	25			
	Transparent Color Fine. Select key color. Mod1 = red, Mod2 = green, Mod3 = blue	26			
	Transparent Color Medium. Select key color. Mod1 = red, Mod2 = green, Mod3 = blue	27			
Transparent Color Coarse. Select key color. Mod1 = red, Mod2 = green, Mod3 = blue	28				

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Graphic Effect Mode 1, 2 & 3	Transparent Color Invert, Fine. Select key color. Mod1 = red, Mod2 = green, Mod3 = blue	29			
	Transparent Color Invert, Medium. Select key color. Mod1 = red, Mod2 = green, Mod3 = blue	30			
	Transparent Color Invert, Coarse. Select key color. Mod1 = red, Mod2 = green, Mod3 = blue	31			
	Scan Line. Mod1 selects scan line as texture, Mod2 fades from original image to converted image, Mod3 not used, reserved	32			
	Transparent Wipes. Mod1 = width of transparent area, Mod2 = center of transparent area, Mod3 = transparency mode	33			
	Pixel Twist. Mod1 = x twist center, Mod2 = y twist center, Mod3 = direction and amount of twist	34			
	Picture-in-Picture. Mod1 = x subpicture center, Mod2 = y subpicture center, Mod3 = subpicture size	35			
	Magnifying Lens. Mod1 = x lens center, Mod2 = y lens center, Mod3 = lens size	36			
	Magnifying Lens 2. Mod1 = x lens center, Mod2 = y lens center, Mod3 = lens size	37			
	Cartoon Edge. Mod1 = Edge Color, Mod2 = Contrast, Mod3 = Edge detection sensitivity	38			
	Color DeConverge. Mod1 = Moves red up, Mod2 = Moves green down and right, Mod3 = Moves blue down and left	39			
	Horizontal Mirror. Mod1 = mirror center, Mod2 and Mod3 not used	40			
	RGB Swap to BGR. Mod1 = red, Mod2 = green, Mod3 = blue	41	NA	0	0
	RGB Swap to RBG. Mod1 = red, Mod2 = green, Mod3 = blue	42			
	RGB Swap to GRB. Mod1 = red, Mod2 = green, Mod3 = blue	43			
	Colorize Gray Scale maps pixel intensity to color. Mod1 = Color Scheme selection, Mod2 = Zero intensity point in color scheme, Mod3 = Fading	44			
	Intensity key turns pixels of selected intensity transparent. Mod1 = Color Scheme, Mod2 = Intensity bandwidth, Mod3 = Transparency	45			
	Raindrop effect. Mod1 controls size/speed, Mod2 seeds the random number generator, and Mod3 controls raindrop rate.	46			
	Scale RGB. Mod1 = scale red, Mod2 = scale green, Mod3 = scale blue. Maximum of Mod1, Mod2 and Mod3 sets overall color range	47			
	Tiling on. Mod1 = x-axis tile scale, Mod2 = y-axis tile scaler, Mod3 = space between lines	48			
	Color to Alpha. Mod1 = red to alpha, Mod2 = green to alpha, Mod3 = blue to alpha	49			
	Color to Alpha, Inverted. Mod1 = cyan to alpha, Mod2 = magenta to alpha, Mod3 = yellow to alpha	50			
	Texture Mixing. Mod1 = Source media file, Mod2 = Source effect level, Mod3 = Crossfade from original to source texture	51			
	Image Scale and Rotate. Mod1 = scales image, Mod2 = rotation angle, Mod3 = rotation speed	52			
	Film Roll. Mod1 = horizontal roll speed, Mod2 = vertical roll speed, Mod3 = Image scale	53			
	Pixelate. Mod1 = Amount of pixelation, Mod2 = horizontal scale, Mod3 = vertical scale	54			

Parameter	Description	DMX Value		Default		
		Dec.	%	Dec.	%	
Graphic Effect Mode 1, 2 & 3	Faux LED. Mod1 = "LED" size, Mod2 = spacing, Mod3 = color peaking	55				
	Faux Tile. Mod1 = Tile size, Mod2 = spacing, Mod3 = color peaking	56				
	Fuzzifier. Mod1 = Horizontal distance, Mod2 = vertical distance, Mod3 = fuzz decay	57				
	Drop Shadow. Mod1 = horizontal shadow size, Mod2 = vertical shadow size, Mod3 = shadow opacity	58				
	Zoom Blur. Mod1 = horizontal position center, Mod2 = vertical position center, Mod3 = zoom	59				
	Chroma Shift. Mod1 = horizontal shift, Mod2 = vertical shift, Mod3 = scale	60				
	ShakeNBake. Mod1 = horizontal shake, Mod2 = vertical shake, Mod3 = scale	61				
	Slats, Vertical. Mod1 = number, Mod2 = displacement, Mod3 = fade	62				
	Slats, Horizontal. Mod1 = number, Mod2 = displacement, Mod3 = fade	63				
	Sinewave, Circular with Y-axis Wobulation Mod1 = size, Mod2 = rate, Mod3 = offset	64				
	Sinewave, Circular with Y-axis Wobulation Mod1 = size, Mod2 = rate, Mod3 = offset	65				
	Sinewave, Circular with Z-axis Wobulation Mod1 = size, Mod2 = rate, Mod3 = offset	66				
	Sinewave, Horizontal with X-axis Wobulation Mod1 = size, Mod2 = rate, Mod3 = offset	67				
	Sinewave, Horizontal with Y-axis Wobulation Mod1 = size, Mod2 = rate, Mod3 = offset	68				
	Sinewave, Horizontal with Z-axis Wobulation Mod1 = size, Mod2 = rate, Mod3 = offset	69				
	Sinewave, Vertical with X-axis Wobulation Mod1 = size, Mod2 = rate, Mod3 = offset	70	NA		0	0
	Sinewave, Vertical with Y-axis Wobulation Mod1 = size, Mod2 = rate, Mod3 = offset	71				
	Sinewave, Vertical with Z-axis Wobulation Mod1 = size, Mod2 = rate, Mod3 = offset	72				
	Glow: Mod1 = red, Mod2 = green, Mod3 = blue	73				
	Glow Color Cycle: Mod1 = red cycle speed, Mod2 = green cycle speed, Mod3 = blue cycle speed	74				
	Reserved, defaults to Effect 0	75-79				
	Downward Vertical Streaks. Mod1 = start position, Mod2 = streak angle, Mod3 = fade	80				
	Gaussian Blur. Mod1 = sample distance, Mod2 = filter pass number, Mod3 = curve shape	81				
	Sharpen. Mod1 = sample distance, Mod2 = number of filter passes, Mod3 = sharpen scale	82				
	Flip, Mod1 = flip horizontally, Mod2 = flip vertically, Mod3 = not used	83				
	UV to Gray. Mod1 = U coordinate, Mod2 = V coordinate, Mod3 = Tolerance	84				
	UV to Transparent. Mod1 = U coordinate, Mod2 = V coordinate, Mod3 = Tolerance	85				
	UVSelect to Transparent. Mod1 = U coordinate, Mod2 = V coordinate, Mod3 = Tolerance	86				
	HS to Gray. Mod1 = H coordinate, Mod2 = S coordinate, Mod3 = Tolerance	87				
	HS to Transparent. Mod1 = H coordinate, Mod2 = S coordinate, Mod3 = Tolerance	88				
	HSSelect to Transparent. Mod1 = H coordinate, Mod2 = S coordinate, Mod3 = Tolerance	89				
	Texture Shift. Mod1 = horizontal shift, Mod2 = vertical shift, Mod3 = colors and scale	90				

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Graphic Effect Mode 1, 2 & 3	Lens Grid. Mod1 = magnification, Mod2 = edge shading, Mod3 = number of lenses	91	NA	0	0
	Edge Detect BW2. Mod1 = Sample distance, Mod2 = edge threshold comparison, Mod3 = detected edge scaler	92			
	Film Burn. Mod1 = burn/unburn rate, Mod2 = film blackening, Mod3 = burn pattern	93			
	Film Noise. Mod1 = noise rate, Mod2 = (0,127) push to sepia, (128,255) push to sepia with jitter, Mod3 = noise level	94			
	Particle System 1. Mod1 = emitter type, Mod2 = trail length, Mod3 = particle acceleration	95			
	Particle System 2. Mod1 = number of particles, Mod2 = size of particles, Mod3 = emitter size	96			
	Particle System 3. Mod1 -> particle initial velocity, Mod2 = particle rotation, Mod3 = particle lifetime	97			
	Prism. Mod1 = number of facets, Mod2 = index of refraction, Mod3 = rotation	98			
	Gaussian Halo. Mod1 = sample distance, Mod2 = number of filter passes, Mod3 = shape of Gaussian curve	99			
	Scene Change Detect Mod1 = Scale RGB, Mod2 = RGB to Alpha, Mod3 = Scale color after alpha applied	100			
	Yxy Luminance Scaling. Mod1 = scale luminance (default 64), Mod2 = scale x (default 128), Mod3 = scale	101			
	Prerotation Translation. Mod1 = translate x, Mod2 = translate y, Mod3 = translate z	102			
	Digital Mspeed. Mod1 = rotation mspeed, Mod2 = scaling mspeed, Mod3 = position mspeed	103			
	Reserved. Defaults to effect mode = 0	104-252			
	Special value used with global spherical mapping effect 142. Defaults to 0 otherwise.	253			
	Special value used with global spherical mapping effect 142. Defaults to 0 otherwise.	254			
Pan and Scan	255				
Graphic Effect Mode Modifier 1	These Modifier parameters adjust the effect selected in the corresponding channel of each of the three Graphic Effect Mode channels.	0-255	0-100	NA	NA
Graphic Effect Mode Modifier 2	The type of adjustment and the default value depends on the particular effect. NOTE: Setting the Graphic Effect Mode DMX = 253 or 254 activates specific spherical mapping control options for Modifier parameters. For more about Modifier parameter functionality, see <i>Effect Mode Parameters on page 102</i> , and specific effect options listed alphabetically in <i>Chapter 13</i> .	0-255	0-100		
Graphic Modifier 3		0-255	0-100		

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Graphic Rotation					
X-axis Rotation (vertical flip, 16-bit adjustment)	Continuous variable-speed counterclockwise object rotation around X-axis (fast to slow)	0-16382	0-24	32768	50
	Continuous rotation stop	16383	25		
	Rotates the object counterclockwise around X-axis in steps to -720 degrees absolute	16384-32767	26-49		
	0° rotation around X-axis	32768	50		
	Rotates the object clockwise around X-axis in steps to 720 degrees absolute	32769-49151	51-74		
	Continuous rotation stop	49152	75		
	Continuous variable-speed clockwise object rotation around X-axis (slow to fast)	49154-65535	76-100		
Y-axis Rotation (horizontal flip, 16-bit adjustment)	Continuous variable-speed counterclockwise object rotation around Y-axis (fast to slow)	0-16382	0-24	32768	50
	Continuous rotation stop	16383	25		
	Rotates the object counterclockwise around Y-axis in steps to -720 degrees absolute	16384-32767	26-49		
	0° rotation around Y-axis	32768	50		
	Rotates the object clockwise around Y-axis in steps to 720 degrees absolute	32769-49151	51-74		
	Continuous rotation stop	49152	75		
	Continuous variable-speed clockwise object rotation around Y-axis (slow to fast)	49154-65535	76-100		
Z-axis Rotation (circular 16-bit adjustment)	Continuous variable-speed counterclockwise object rotation around Z axis (fast to slow)	0-16382	0-24	32768	50
	Continuous rotation stop	16383	25		
	Rotates the object counterclockwise around Z-axis in steps to -720 degrees absolute	16384-32767	26-49		
	0° rotation around Z-axis	32768	50		
	Rotates the object clockwise around Z-axis in steps to 720 degrees absolute	32769-49151	51-74		
	Continuous rotation stop	49152	75		
	Continuous variable-speed clockwise object rotation around Z axis (slow to fast)	49154-65535	76-100		

Parameter	Description	DMX Value		Default	
		Dec.	%	Dec.	%
Graphic 1 Scaling					
Scale X	Minimum object size along X axis (1:10)	0	0	32768	50
	Increases object size along X axis from minimum to actual size	1-32767	1-49		
	Actual size along X axis (1:1)	32768	50		
	Increases object size along X axis from actual to maximum size	32769-65534	51-99		
	Maximum object size along X axis (10:1)	65535	100		
Scale Y	Minimum object size along Y axis (1:10)	0	0	32768	50
	Increases object size along Y axis from minimum to actual size	1-32767	1-49		
	Actual size along Y axis (1:1)	32768	50		
	Increases object size along Y axis from actual to maximum size	32769-65534	51-99		
	Maximum object size along Y axis (10:1)	65535	100		
Scale Z	Minimum object size along Z axis (1:10)	0	0	32768	50
	Increases object size along Z axis from minimum to actual size	1-32767	1-49		
	Actual size along Z axis (1:1)	32768	50		
	Increases object size along Z axis from actual to maximum size	32769-65534	51-99		
	Maximum object size along Z axis (10:1)	65535	100		
Graphic 1 Position					
X-Position	Moves object left from center of display	0-36767	0-49	32768	50
	Centers object along X axis in display	32768	50		
	Moves object right from center of display	36769-65535	51-100		
Y-Position	Moves object down from center of display	0-36767	0-49	32768	50
	Centers object along Y axis in display	32768	50		
	Moves object up from center of display	36769-65535	51-100		
Z-Position	Moves object nearer from center of display	0-36767	0-49	32768	50
	Centers object along Z axis in display	32768	50		
	Moves object back along Z axis at center of display	36769-65535	51-100		