

# Fondazione Arena di Verona

**CAPITOLATO DI GARA PER LA FORNITURA A NOLEGGIO DI n° 42 (più 2 scorte) APPARECCHI MOTORIZZATI (MOVING HEAD) DA UTILIZZARE NELL 'IMPIANTO ILLUMINOTECNICO PER IL 96° ARENA OPERA FESTIVAL 2018**

...

Le apparecchiature dovranno essere in ottime condizioni, con lampada nuova, completi di fly case e tutti gli accessori per sospensione.  
Le specifiche tecniche sotto elencate sono da ritenersi inderogabili.

# SPECIFICHE TECNICHE

## Physical

Length .....	690 mm (27.2 in.)
Width .....	536 mm (21.1 in.)
Height (head straight up) .....	914 mm (36.0 in.)
Weight .....	53.5 kg (117.9 lbs.)

## Lamp

Type .....	1500 W short arc discharge
Approved lamp .....	Osram HTI 1500W/60/P50
Color temperature .....	6000 K
CRI (Color rendering index) .....	>85
Average lifetime .....	750 hours
Hot restrike .....	Semi-hot
Socket .....	PGJ50
Ballast .....	Electronic

## Dynamic Effects

Color mixing .....	CMY, independently variable 0 - 100%
Color temperature control .....	CTO, variable 6000 - 3200 K
Color wheel .....	7 interchangeable dichroic filters + open, indexing, continuous rotation, random color
Framing .....	Continuously rotatable framing module with 4 individually controllable blades
Rotating gobos .....	Rotating gobo wheel with 5 interchangeable rotating gobos + open, indexing, continuous gobo rotation, shake
Gobo animation .....	Interchangeable animation wheel, indexing, continuous rotation with variable angle, speed and direction
Beam effect .....	Interchangeable frost filter
Iris .....	0 - 100%, pulse effects
Mechanical dimmer .....	0 - 100%
Mechanical shutter .....	Strobe effect 2 - 10 Hz, pulse effects, instant open and blackout
Focus .....	2 m to infinity
Zoom .....	11.5° - 55°
Pan .....	540°
Tilt .....	268°
Position correction system .....	Absolute position monitoring

## Control and programming

DMX channels .....	33/40
Setting and addressing .....	Control panel with backlit graphic display
RDM .....	Implemented
16-bit control .....	Dimmer, gobo indexing (gobo wheels 1 and 2), focus, zoom, pan and tilt
Protocol .....	USITT DMX512-A, ANSI/ESTA E1.20 RDM
Fixture identification .....	Four-digit user-settable ID number
Receiver .....	Opto-isolated RS-485
Firmware update .....	USB memory device or USB/DMX hardware interface

## Photometric data

### Standard lens, zoom at minimum

Efficiency .....	22%
One tenth-peak angle .....	11°
Total output .....	31500 lm

**Standard lens, zoom at median**

Efficiency .....	23%
One tenth-peak angle .....	32°
Total output .....	33300 lm

**Standard lens, zoom at maximum**

Efficiency .....	23%
One tenth-peak angle .....	53°
Total output .....	33800 lm

*Measurement source: Osram HTI 1500W/60/P50  
 Measurement conditions: 227 V, 50 Hz, no effects applied*

**Construction**

Color .....	Black
Housing .....	Magnesium alloy, UV-resistant fiber-reinforced composite
Reflector .....	Glass, cold light
Protection rating .....	IP20

**Gobos**

Size .....	E
Outside diameter .....	37.5 mm (1.5 in.) +/- 0.2 mm (0.01 in.)
Maximum image diameter .....	30 mm (1.2 in.) +/- 0.4 mm (0.02 in.)
Maximum thickness .....	1.1 mm (0.04 in.) +/- 0.1 mm (0.004 in.)
Recommended glass .....	Borosilicate 3.3 or better with dichroic or heavy matted aluminum coating

**Gobo animation wheel**

Outside diameter .....	133.9 mm (5.3 in.) +/- 0.1 mm (0.004 in.)
Image outer diameter .....	130 mm (5.1 in.)
Image inner diameter .....	32 mm (1.3 in.)
Thickness .....	1.1 mm (0.04 in.) +/- 0.1 mm (0.004 in.)
Recommended glass .....	Borosilicate 3.3 or better with dichroic or normal/double mirror aluminum coating

**Installation**

Mounting points .....	2 pairs of 1/4-turn locks
Orientation .....	Any
Minimum distance from illuminated surface .....	2.5 m (100 in.)
Minimum distance from combustible materials .....	0.2 m (8 in.)

**Connections**

AC power input .....	Neutrik PowerCon connector with 3 m (9.8 ft.) cable tail
DMX and RDM data in/out .....	5-pin locking XLR
Ethernet (Artnet II compatible, ACN-ready) .....	Neutrik RJ-45 socket (accepts Neutrik EtherCon connectors in housing)
USB devices (including USB memory storage) .....	USB host socket
Future USB options .....	USB device socket

**Electrical**

AC input .....	3 m trailing cable w/o cord cap
AC power .....	200-240 V nominal, 50/60 Hz
Power supply .....	auto-ranging electronic switch-mode
Main fuse for 200 - 240 V power .....	16 AT (x 2)

# PROTOCOLLO DMX

Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function
1	1	0 - 19	0 - 7	<b>Strobe/shutter</b> Shutter closed (Lamp Switches to 800 watt mode after shutter is closed for 10 seconds)
		20 - 49	8 - 19	Shutter open
		50 - 64	20 - 25	Strobe, fast → slow
		65 - 69	26 - 27	Shutter open
		70 - 84	28 - 33	Opening pulse, fast → slow
		85 - 89	34 - 35	Shutter open
		90 - 104	36 - 41	Closing pulse, fast → slow
		105 - 109	42 - 43	Shutter open
		110 - 124	44 - 49	Random strobe, fast → slow
		125 - 129	50 - 51	Shutter open
		130 - 144	52 - 57	Random opening pulse, fast → slow
		145 - 149	58 - 59	Shutter open
		150 - 164	60 - 65	Random closing pulse, fast → slow
		165 - 169	66 - 67	Shutter open
		170 - 184	68 - 73	Burst pulse, fast → slow
		185 - 189	74 - 75	Shutter open
		190 - 204	76 - 81	Random burst pulse, fast → slow
		205 - 209	82 - 83	Shutter open
		210 - 224	84 - 89	Electronic sine wave strobe, fast → slow
		225 - 229	90 - 91	Shutter open
230 - 244	92 - 97	Electronic burst strobe, fast → slow		
245 - 255	98 - 100	Shutter open		
2	2	0 - 255	0 - 100	<b>Dimmer fade (MSB)</b> Closed → open
-	3	0 - 255	0 - 100	<b>Dimmer fade, fine (LSB)</b>
3	4	0 - 255	0 - 100	<b>Cyan</b> White → full cyan
				<b>Cyan range in random CMY color</b> <i>when random CMY selected on channel 21 (16-bit) or 25 (16-bit extended)</i>
		0	0	Normal (full range)
		1 - 127	1 - 50	Minimum cyan setting (127 = full cyan)
		128 - 254	51 - 99	Maximum cyan setting (128 = no cyan)
255	100	Normal (full range)		
4	5	0 - 255	0 - 100	<b>Magenta</b> White → full magenta
				<b>Magenta range in random CMY color</b> <i>when random CMY selected on channel 21 (16-bit) or 25 (16-bit extended)</i>
		0	0	Normal (full range)
		1 - 127	1 - 50	Minimum magenta setting (127 = full magenta)
		128 - 254	51 - 99	Maximum magenta setting (128 = no magenta)
255	100	Normal (full range)		

Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function
5	6	0 - 255	0 - 100	<b>Yellow</b> White → full yellow
		0	0	<b>Yellow range in random CMY color</b> when random CMY selected on channel 21 (16-bit) or 25 (16-bit extended)
		1 - 127	1 - 50	Normal (full range)
		128 - 254	51 - 99	Minimum yellow setting (127 = full yellow)
		255	100	Maximum yellow setting (128 = no yellow) Normal (full range)
6	7	0 - 255	0 - 100	<b>CTO</b> Open (6000 K) → warm (3200 K)
				<b>Color Wheel</b>
7	8	0	0	<i>Continuous Scroll</i> Open
		1 - 19	1 - 7	Open → Slot 1 - Blue
		20	8	Slot 1
		21 - 39	9 - 15	Slot 1 → Slot 2 - Green
		40	16	Slot 2
		41 - 59	17 - 23	Slot 2 → Slot 3 - Orange
		60	24	Slot 3
		61 - 79	25 - 31	Slot 3 → Slot 4 - Minus green
		80	32	Slot 4
		81 - 99	33 - 39	Slot 4 → Slot 5 - Yellow
		100	40	Slot 5
		101 - 119	41 - 47	Slot 5 → Slot 6 - Congo (deep blue)
		120	48	Slot 6
		121 - 139	49 - 55	Slot 6 → Slot 7 - Red
		140	56	Slot 7
		141 - 159	57 - 63	Slot 7 → Open
		160	64	Open
				<i>Stepped Scroll (snap to full color positions)</i>
		161 - 164	65 - 66	Slot 7 - Red
		165 - 168	67 - 68	Slot 6 - Congo (deep blue)
		169 - 172	69 - 70	Slot 5 - Yellow
		173 - 176	71 - 72	Slot 4 - Minus green
		177 - 180	73 - 74	Slot 3 - Orange
		181 - 184	75 - 76	Slot 2 - Green
		185 - 188	77 - 78	Slot 1 - Blue
		189 - 192	79 - 80	Open
				<i>Continuous Rotation</i>
193 - 214	81 - 86	CW, Fast → Slow		
215 - 221	87 - 88	Stop (This will stop wherever the wheel is at the time)		
222 - 243	89 - 94	CCW, Slow → Fast		
		<i>Random color</i>		
244 - 247	95 - 96	Fast		
248 - 251	97 - 98	Medium		
252 - 255	99 - 100	Slow		

Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function
8	9			<b>Gobo selection, indexing, shake, rotation</b> <i>Indexed gobo selection: set indexed angle on channel 9 (16-bit) or 10 (16-bit ext.)</i>
		0 - 9	0 - 4	Open
		10 - 14	4 - 5	Gobo 1 - Leaf breakup
		15 - 19	5 - 8	Gobo 2 - Dot breakup
		20 - 24	8 - 10	Gobo 3 - Limbo
		25 - 29	10 - 12	Gobo 4 - Linear 3
		30 - 34	12 - 14	Gobo 5 - Raytraces
				<i>Continuous gobo rotation: set gobo rotation speed on channel 9 (16-bit) or 10 (16-bit ext.)</i>
		35 - 39	14 - 16	Gobo 1 - Leaf breakup
		40 - 44	16 - 18	Gobo 2 - Dot breakup
		45 - 49	18 - 20	Gobo 3 - Limbo
		50 - 54	20 - 22	Gobo 4 - Linear 3
55 - 59	22 - 24	Gobo 5 - Raytraces		
		<i>Gobo shake centered on indexed position: set indexed angle on channel 9 (16-bit) or 10 (16-bit ext.). Shake angle increments in following steps: 10°, 15°, 30°, 45°, 60°, 90°, 135°, 180°, 270° and 360°</i>		
60 - 89	24 - 34	Gobo 1 - Leaf breakup, 360° slow → 10° fast		
90 - 119	35 - 45	Gobo 2 - Dot breakup, 360° slow → 10° fast		
120 - 149	46 - 56	Gobo 3 - Limbo, 360° slow → 10° fast		
150 - 179	57 - 67	Gobo 4 - Linear 3, 360° slow → 10° fast		
180 - 209	68 - 78	Gobo 5 - Raytraces, 360° slow → 10° fast		
		<i>Continuous gobo wheel scroll with continuous gobo rotation: set gobo rotation speed on channel 9 (16-bit) or 10 (16-bit extended)</i>		
210 - 232	79 - 89	CW gobo wheel scroll, fast → slow*		
233 - 255	90 - 100	CCW gobo wheel scroll, slow* → fast		
		<i>*If gobo crossfading is enabled in control menu (PERSONALITY → GOBO X-FADE), slow = 5% speed. If gobo crossfading is disabled, slow = 30% speed</i>		
9	10			<b>Gobo indexing, direction, speed (MSB)</b> <i>If indexed gobo is selected on channel 8 (16-bit) or 9 (16-bit ext.)</i>
		0 - 255	0 - 100	Gobo indexing, 0 → 395°
				<i>If continuous gobo rotation is selected on channel 8 (16-bit) or 9 (16-bit ext.)</i>
		0 - 2	0	No gobo rotation
		3 - 126	1 - 50	CW, fast → slow
		127 - 129	51	No gobo rotation
130 - 253	52 - 99	CCW, slow → fast		
254 - 255	100	No gobo rotation		
10	11			<b>Gobo fine indexing or rotation speed (LSB)</b> <i>If indexed gobo is selected on channel 8 (16-bit) or 9 (16-bit ext.)</i>
		0 - 255	0 - 100	Gobo indexing, fine
				<i>If continuous gobo rotation is selected on channel 8 (16-bit) or 9 (16-bit ext.)</i>
		0 - 255	0 - 100	Gobo rotation speed, fine
11	12	0 - 255	0 - 100	<b>Framing blade 1, position</b> Out → in
12	13			<b>Framing blade 1, angle</b>
		0 - 126	0 - 49	Angle -
		127 - 128	50	Parallel
129 - 255	51 - 100	Angle +		
13	14	0 - 255	0 - 100	<b>Framing blade 2, position</b> Out → in
14	15			<b>Framing blade 2, angle</b>
		0 - 126	0 - 49	Angle -
		127 - 128	50	Parallel
129 - 255	51 - 100	Angle +		
15	16	0 - 255	0 - 100	<b>Framing blade 3, position</b> Out → in

Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function
16	17	0 - 126 127 - 128 129 - 255	0 - 49 50 51 - 100	<b>Framing blade 3, angle</b> Angle – Parallel Angle +
17	18	0 - 255	0 - 100	<b>Framing blade 4, position</b> Out → in
18	19	0 - 126 127 - 128 129 - 255	0 - 49 50 51 - 100	<b>Framing blade 4, angle</b> Angle – Parallel Angle +
19	20	0 - 199 200 - 225 226 - 229 230 - 255	0 - 78 79 - 88 89 - 90 91 - 100	<b>Frame rotation: indexing or rotation (MSB)</b> 0 - 395° CW, fast → slow No rotation CCW, slow → fast
20	21	0 - 255	0 - 100	<b>Frame rotation: Fine indexing or rotation speed (LSB)</b>
	22	0 - 19 20 - 39 40 - 59 60 - 79 80 - 84 85 - 89 90 - 94 95 - 99 100 - 104 105 - 109 110 - 114 115 - 119 120 - 124 125 - 129 130 - 134 135 - 139 140 - 144 145 - 149 150 - 255	0 - 7 7 - 16 17 - 24 25 - 31 31 - 33 33 - 34 34 - 35 36 - 37 38 - 39 40 - 41 42 - 43 44 - 45 46 - 47 48 - 49 50 - 51 52 - 53 54 - 55 56 - 57 58 - 100	<b>Frame shape macros</b> No macro applied, individual framing blade control channels active Macro 1: Vertical Bar Macro 2: Horizontal Bar Macro 3: Square Macro 4: Parallelogram Right Macro 5: Parallelogram Left Macro 6: Trapezoid Up Macro 7: Trapezoid Left Macro 8: Trapezoid Down Macro 9: Trapezoid Right Macro 10: Equilateral Triangle Up Macro 11: Equilateral Triangle Left Macro 12: Equilateral Triangle Down Macro 13: Equilateral Triangle Right Macro 14: Right-angled Triangle Down Left Macro 15: Right-angled Triangle Down Right Macro 16: Right-angled Triangle Up Right Macro 17: Right-angled Triangle Up Left Reserved for future use
	23	0 - 255	0 - 100	<b>Frame shape macro size</b> Small → large
	24	0 - 2 3 - 5 6 - 8 9 - 11 ↓ 165 - 167 168 169 ↓ 216 217 218 ↓ 228 229 230 ↓ 252 253 - 255	0 1 2 3 ↓ 65 66 66 ↓ 85 85 85 ↓ 89 90 90 ↓ 99 100	<b>Frame shape macro crossfade timing</b> Follow console timing 0.2 seconds 0.4 seconds 0.4 seconds <i>0.2 second intervals up to 10.8 seconds</i> 11 seconds 12 seconds 13 seconds <i>1 second intervals up to 60 seconds</i> 60 seconds 65 seconds 70 seconds <i>5 second intervals up to 120</i> 120 seconds 130 seconds 140 seconds <i>10 second intervals up to 360</i> 360 seconds Follow console timing

Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function
21	25	0 - 18	0 - 6	<b>Color/CMY macros, gobo crossfading speed</b> <i>No function</i> (Note: this value is used for setting calibration values on channel 34/40)
		19 - 57	7 - 22	Color wheel: fast narrow shake → slow wide shake, around currently selected color
		58 - 83	23 - 32	<i>Random CMY: set min./ max. CMY range limits on channels 3 - 5 (16-bit) or 4 - 6 (16-bit ext.)</i>
		84 - 109	33 - 42	Fast
		110 - 135	43 - 52	Medium
		136 - 207	53 - 82	Slow
		208 - 255	83 - 100	<i>If enabled in PERSONALITY → GOBO X-FADE control menu:</i> Gobo crossfading speed slow → fast <i>No function</i>
22	26	0 - 5	0 - 2	<b>Gobo animation wheel: position and function</b> Open
		6 - 10	2 - 4	Horizontal indexed position: set indexing on ch. 23 (16-bit) or 27 (16-bit ext.)
		11 - 15	4 - 6	Vertical indexed position: set indexing on ch. 23 (16-bit) or 27 (16-bit ext.)
		16 - 20	6 - 8	Horizontal position, continuous rotation: set direction & speed on ch. 23 (16-bit) or 27 (16-bit ext.)
		21 - 25	8 - 10	Vertical position, continuous rotation: set direction & speed on ch. 23 (16-bit) or 27 (16-bit ext.)
		26 - 110	10 - 43	Angled position, vertical → horizontal, continuous rotation: set direction & speed on ch. 23 (16-bit) or 27 (16-bit ext.)
		111 - 195	44 - 76	Angled position, horizontal → vertical: set indexing on ch. 23 (16-bit) or 27 (16-bit ext.)
		196 - 255	77 - 100	Angled position, vertical → open: set indexing on ch. 23 (16-bit) or 27 (16-bit ext.)
23	27	0 - 255	0 - 100	<b>Gobo animation wheel: indexed angled position, rotation direction and speed</b> <i>If indexed angled position is selected on channel 22 (16-bit) or 26 (16-bit ext.):</i> Indexed angle, 0° → 395°
		0 - 2	0	<i>If continuous rotation is selected on channel 22 (16-bit) or 26 (16-bit ext.):</i> No animation wheel rotation
		3 - 126	1 - 50	CW, fast → slow
		127 - 129	51	No animation wheel rotation
		130 - 253	52 - 99	CCW, slow → fast
		254 - 255	100	No animation wheel rotation
24	28	0 - 19	0 - 7	<b>Beam effect (frost or prism depending on which is installed)</b> Beam effect off
		20 - 39	7 - 16	Beam effect 1 indexing: set angle on ch. 25 (16-bit) or 29 (16-bit ext.)
		40 - 59	17 - 24	Beam effect 1 rotating: set direction and speed on ch. 25 (16-bit) or 29 (16-bit ext.)
		60 - 79	25 - 31	Beam effect off
		80 - 255	32 - 100	<i>No function</i>
25	29	0 - 255	0 - 100	<b>Beam effect (frost or prism depending on which is installed) indexing angle, rotation direction and speed</b> <i>If beam effect indexing is selected on channel 24 (16-bit) or 28 (16-bit ext.):</i> Indexed angle 0° - 395°
		0 - 2	0	<i>If beam effect rotation is selected on channel 24 (16-bit) or 28 (16-bit ext.):</i> No beam effect rotation
		3 - 126	1 - 50	CW, fast → slow
		127 - 129	51	No beam effect rotation
		130 - 253	52 - 99	CCW, slow → fast
		254 - 255	100	No beam effect rotation
26	30	0 - 199	0 - 77	<b>Iris</b> Open → closed
		200 - 215	78 - 84	Closed
		216 - 229	85 - 89	Opening pulse, fast → slow
		230 - 243	90 - 94	Closing pulse, fast → slow
		244 - 249	95 - 97	Random opening pulse, fast → slow
		250 - 255	98 - 100	Random closing pulse, fast → slow
27	31	0 - 255	0 - 100	<b>Focus (MSB)</b> Infinity → near



Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function
-	<b>32</b>	0 - 255	0 - 100	<b>Focus, fine (LSB)</b>
<b>28</b>	<b>33</b>	0 - 255	0 - 100	<b>Zoom (MSB)</b> Flood → spot
-	<b>34</b>	0 - 255	0 - 100	<b>Zoom, fine (LSB)</b>
<b>29</b>	<b>35</b>	0 - 255	0 - 100	<b>Pan (MSB)</b> Left → right (128 = neutral)
<b>30</b>	<b>36</b>	0 - 255	0 - 100	<b>Pan, fine (LSB)</b>
<b>31</b>	<b>37</b>	0 - 255	0 - 100	<b>Tilt (MSB)</b> Left → right (128 = neutral)
<b>32</b>	<b>38</b>	0 - 255	0 - 100	<b>Tilt, fine (LSB)</b>

Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function
<b>33</b>	<b>39</b>	0 - 9	0 - 1	<b>Fixture control/settings</b> <i>No function</i>
		10 - 14	2 - 3	Reset entire fixture <sup>(1)</sup>
		15 - 19	4 - 5	Reset dimmer and shutter only <sup>(1)</sup>
		20 - 24	6 - 7	Reset CMYC and color wheel only <sup>(1)</sup>
		25 - 29	8 - 9	Reset effects module (gobo wheel, framing, gobo animation, iris, frost) only <sup>(1)</sup>
		30 - 34	10 - 11	Reset zoom and focus only <sup>(1)</sup>
		35 - 39	12 - 13	Reset pan and tilt only <sup>(1)</sup>
		40 - 44	14 - 15	<i>No function</i>
		45 - 49	16 - 17	Lamp on
		50 - 54	18 - 19	Lamp off <sup>(1, 2)</sup>
		55 - 59	20 - 21	<i>No function</i> (Note: this value is used for managing pan/tilt limits and storing calibration values on channel 34/40)
		60 - 64	22 - 23	Dimmer curve = Optically linear (menu override, setting unaffected by power off/on) <sup>(2)</sup>
		65 - 69	24 - 25	Dimmer curve = Square law (menu override, factory default setting, setting unaffected by power off/on) <sup>(2)</sup>
		70 - 74	26 - 27	Dimmer curve = Inverse square law (menu override, setting unaffected by power off/on) <sup>(2)</sup>
		75 - 79	28 - 29	Dimmer curve = S-curve (menu override, setting unaffected by power off/on) <sup>(2)</sup>
		80 - 84	30 - 31	<i>No function</i>
		85 - 89	32 - 33	Pan & tilt speed = Normal (menu override - Setting returns to MENU setting after power on/off) <sup>(2)</sup>
		90 - 94	34 - 35	Pan & tilt speed = Fast (menu override - Setting returns to MENU setting after power on/off) <sup>(2)</sup>
		95 - 99	36 - 37	Pan & tilt speed = Slow (menu override - Setting returns to MENU setting after power on/off) <sup>(2)</sup>
		100 - 139	38 - 53	<i>No function</i>
		140 - 144	54 - 55	Parameter shortcuts = ON (menu override, setting stays at factory default ON at power off/on) <sup>(2)</sup>
		145 - 149	56 - 57	Parameter shortcuts = OFF (menu override, setting returns to factory default ON at power off/on) <sup>(2)</sup>
		100 - 154	58 - 59	<i>No function</i>
		155 - 159	60 - 61	Disable zoom/focus linking <sup>(2)</sup>
		160 - 164	62 - 63	Enable zoom/focus linking, near distance <sup>(2)</sup>
		165 - 169	64 - 65	Enable zoom/focus linking, medium distance (factory default setting) <sup>(2)</sup>
		170 - 174	66 - 67	Enable zoom/focus linking, far distance <sup>(2)</sup>
		175 - 199	68 - 77	<i>No function</i>
		200 - 204	78 - 79	Ballast output full, set to 1500 W
		205 - 209	80 - 81	Ballast output reduced, output set to 1200 W
		210 - 214	82 - 83	Ballast output reduced, output set to 1100 W
		215 - 219	84 - 85	Ballast output reduced, output set to 1000 W
		220 - 224	86 - 87	Ballast output reduced, output set to 900 W
225 - 239	88 - 93	<i>No function</i>		
240 - 244	94 - 95	Illuminate display on fixture <sup>(2)</sup>		
245 - 249	96 - 97	<i>No function</i>		
250 - 255	98 - 100	Trigger event log (inserts new dynamic content into current report)		

<sup>(1)</sup> If DMX Reset or DMX Lamp Off are disabled in the control menus, a full or partial reset command or a lamp off command can be executed only if:  
Slot 1 is selected on the color wheel (DMX value 20 on channel 7 in 16-bit or 8 in 16-bit ext.), and  
The beam effect (frost filter or prism) is on (DMX value 20-59 on channel 24 in 16-bit or 28 in 16-bit ext.), and  
Open gobo is selected on the gobo wheel (DMX value 0 on channel 8 in 16-bit or 9 in 16-bit ext.)

<sup>(2)</sup> Value must be held for 5 seconds to activate

Basic 16-bit Mode	16-bit Extended Mode	DMX Value	Percent	Function
34	40	0 - 39	0 - 13	<b>Fixture adjustments/calibration</b>
		40 - 44	14 - 15	<i>No function:</i>
		45 - 49	16 - 17	Enable pan/tilt limitation <sup>(4)</sup>
		50 - 54	18 - 19	<i>No function</i>
		55 - 59	20 - 21	Disable pan/tilt limitation <sup>(4)</sup>
		60 - 64	22 - 23	<i>No function</i>
		65 - 69	24 - 25	Set pan/tilt limit: head must stay inside defined area (create safe zone) <sup>(4)</sup>
		70 - 74	26 - 27	<i>No function</i>
		75 - 79	28 - 29	Set pan/tilt limit: head must stay outside defined limits (create no-go zone) <sup>(4)</sup>
		80 - 84	30 - 31	<i>No function</i>
		85 - 89	32 - 33	Store current pan position as lower pan limit <sup>(4)</sup>
		90 - 94	34 - 35	Store current pan position as upper pan limit <sup>(4)</sup>
		95 - 99	36 - 37	<i>No function</i>
		100 - 104	38 - 39	Store current tilt position as lower tilt limit <sup>(4)</sup>
		105 - 109	40 - 41	Store current tilt position as upper tilt limit <sup>(4)</sup>
		110 - 114	42 - 43	<i>No function</i>
		115 - 124	44 - 47	Reset pan and tilt limits <sup>(3)</sup>
		125 - 129	48 - 49	<i>No function</i>
		130 - 134	50 - 51	Store dimmer calibration <sup>(4)</sup>
		135 - 139	52 - 53	Store cyan calibration <sup>(4)</sup>
		140 - 144	54 - 55	Store magenta calibration <sup>(4)</sup>
		145 - 149	56 - 57	Store yellow calibration <sup>(4)</sup>
		150 - 154	58 - 59	Store CTC calibration <sup>(4)</sup>
		155 - 159	60 - 61	Store CMYC calibration <sup>(4)</sup>
		160 - 179	62 - 69	Store gobo wheel slots 1 – 5 index calibration <sup>(4)</sup>
		180 - 184	70 - 71	<i>No function</i>
		185 - 189	72 - 73	Store framing blade 1 calibration <sup>(4)</sup>
		190 - 194	74 - 75	Store framing blade 2 calibration <sup>(4)</sup>
		195 - 199	76 - 77	Store framing blade 3 calibration <sup>(4)</sup>
		200 - 204	78 - 79	Store framing blade 4 calibration <sup>(4)</sup>
		205 - 209	80 - 81	Store framing blade rotation calibration <sup>(4)</sup>
		210 - 214	82 - 83	Store gobo animation wheel index calibration <sup>(4)</sup>
215 - 219	84 - 85	Store beam effect (prism) index calibration <sup>(4)</sup>		
220 - 224	86 - 87	Store iris calibration <sup>(4)</sup>		
225 - 229	88 - 89	Store focus calibration <sup>(4)</sup>		
230 - 234	90 - 91	Store zoom calibration <sup>(4)</sup>		
235 - 239	92 - 93	Store pan calibration <sup>(4)</sup>		
240 - 244	94 - 95	Store tilt calibration <sup>(4)</sup>		
245 - 249	96 - 97	<i>No function</i>		
250 - 255	98 - 100	Reset all calibrations to factory default <sup>(4)</sup>		
			<i>No function</i>	
			<sup>(3)</sup> To activate: Value must be held for 5 seconds The CMY channels (3, 4 and 5 in 16-bit mode or 4, 5 and 6 in 16-bit extended mode) must all be set to DMX value 232 The beam effect channel (24 in 16-bit mode or 28 in 16-bit extended mode) must be set to DMX value 030.	
			<sup>(4)</sup> To activate: Value must be held for 5 seconds Color/CMY macros channel 21 in 16-bit or 25 in 16-bit ext. must be set to DMX value 005 - 010 Fixture control channel 33 in 16-bit or 39 in 16-bit ext. must be set to DMX value 055 - 059.	

MSB = Most significant byte

LSB = Least significant byte

## **Tempistiche**

Gli apparecchi dovranno essere consegnati il giorno 22 Maggio 2018 e ritirati il giorno 1 Settembre 2018, fatto salvo che il periodo può essere prolungato fino al giorno 8 Settembre 2018 dove il materiale verrà utilizzato per il Gala Bocelli.