CENTURION

American DJ®

User Instructions

American DJ
4295 Charter Street
Los Angeles CA. 90058
www.americandj.com

Revised 8/01

Unpacking: Thank you for purchasing the Centurion™ by American DJ®. Every Centurion™ has been thoroughly tested and has been shipped in perfect operating condition. Carefully check the shipping carton for damage that may have occurred during shipping. If the carton appears to be damaged, carefully inspect your fixture for any damage and be sure all equipment necessary to operate the unit has arrived intact. In the event damage has been found or parts are missing, please contact our toll free customer support number for further instructions. Do not return this unit to your dealer without first contacting customer support.

Introduction: This unit use a single color/gobo wheel combination for vibrant colors and extravagant gobo patterns. The Centurion™ is an intelligent fixture that can operate in DMX mode, as a stand alone sound active piece, or in a Master/Slave configuration. The Centurion™ comes with several build in programs and is best used in multiples of four. This piece is best used with a fog or haze machine to enhance the beam output. When used in DMX mode the fixture requires 3 DMX channels. When used as a stand alone unit or when used in multiples linked in a master/slave configuration an optional IRC/2 controller may be used to control a blackout function.

Customer Support: American DJ® provides a toll free customer support line, to provide set up help and to answer any question should you encounter problems during your set up or initial operation. You may also visit us on the web at www.americandj.com for any comments or suggestions. Service Hours are Monday through Friday 9:00 a.m. to 5:00 p.m. Pacific Standard Time.

Voice:	(800) 322-6337
Fax:	(323) 582-2610
E-mail:	support@americandj.com

To purchase parts online visit http://parts.americandj.com

Warning! To prevent or reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.

Caution! There are no user serviceable parts inside this unit. Do not attempt any repairs yourself, doing so will void your manufactures warranty. In the unlikely event your unit may require service please contact American DJ®.

Centurion™ Quick Start Instructions

To optimize the performance of this product, please read these operating instructions carefully to familiarize yourself with the basic operations of this unit. These instructions contain important safety information regarding the use and maintenance of this unit. If you do not wish to read through the manual, listed below are the master/slave dip switch setting. Link the units together using microphone cables and follow the dip switch chart for sound activation mode. Please keep this manual with the unit, for future reference.

Centurion™ Product Registration

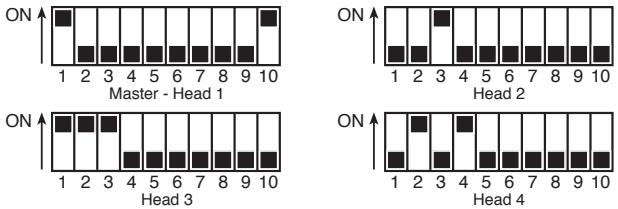
The Centurion™ carries a one year (365 days) limited warranty. Please fill out the enclosed warranty card to validate your purchase. All returned service items whether under warranty or not, must be freight pre-paid and accompany a return authorization (R.A.) number. If the unit is under warranty, you must provide a copy of your proof of purchase invoice. Please contact American DJ® customer support for a R.A. number.

Centurion™ Main Features

- EFP 12v/100w Lamp
- DMX-512 Compatible
- 14 Colored Gobo Combinations, Plus White Spot
- Fan Cooling.
- Built-In 15 Second Lamp Life Protection Circuitry
- Master/Slave Operation
- Linkable

Centurion™ Master/Slave Settings

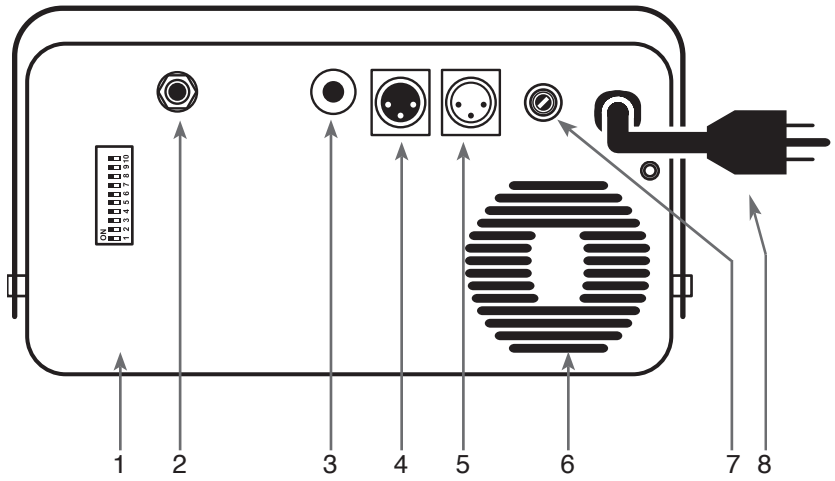
This chart details the Master/Slave dip switch setting for Master/Slave configuration. Use this configuration only when you will be using your fixtures in a Master/Slave configuration. Be sure the number 2 function switch is set to the on position for sound-active operation.



Centurion™ Safety Precautions

- To reduce the risk of electrical shock or fire, do not expose this unit rain or moisture
- Do not spill water or other liquids into or on to your unit.
- Be sure that the local power outlet match that of the required voltage for your unit.
- Do not attempt to operate this unit if the power cord has been frayed or broken.
- Do not attempt to remove or break off the ground prong from the electrical cord. This prong is used to reduce the risk of electrical shock and fire in case of an internal short.
- Disconnect from main power before making any type of connection.
- Do not remove the cover under any conditions. There are no user serviceable parts inside.
- Never operate this unit when it's cover is removed.
- Never plug this unit in to a dimmer pack
- Always be sure to mount this unit in an area that will allow proper ventilation. Allow about 6" (15cm) between this device and a wall.
- Do not attempt to operate this unit, if it becomes damaged.
- This unit is intended for indoor use only, use of this product outdoors voids all warranties.
- During long periods of non-use, disconnect the unit's main power.
- Always mount this unit in safe and stable matter.
- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
- Cleaning -The fixture should be cleaned only as recommended by the manufacturer. See page 13 for cleaning details.
- Heat -The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
- The fixture should be serviced by qualified service personnel when:
  A. The power-supply cord or the plug has been damaged.
  B. Objects have fallen, or liquid has been spilled into the appliance.
  C. The appliance has been exposed to rain or water.
  D. The appliance does not appear to operate normally or exhibits a marked change in performance.

REAR



1. Dip Switches -
These switches serve two functions. In master slave mode these switches are used to assign a specific head address. In DMX mode these switches are used to assign a DMX address to the unit. In DMX mode each switch corresponds to a specific value based on binary code. See page 7 for a detailed explanation of DMX binary code.

2. IRC/2 Controller Jack -
This is for use the optional IRC/2 Black out controller only. **Do not attempt to connect an audio signal this jack, this will damage the PC board and void your manufactures warranty!**

3. Microphone -
This microphone receives external low frequencies to trigger the unit in Sound-Active and Master/Slave mode.

4. XLR Input Jack -
This jack is used to accept an incoming DMX signal or Master/Slave signal.

5. XLR Output Jack -
This jack is used to transmit the incoming DMX signal to another DMX fixture, or in master/slave mode transmit a Master/Slave signal to the next Centurion™ in the chain. For best results in DMX or Master/Slave mode terminate this jack if it is the last unit in the chain. See *"Terminator"* on page 11.

6. Cooling Fan -
Keep the fan grill clean. Never block the fan vents, always allow at least four inches between the fan and any other surface. Improper cooling may result in premature lamp failure.

7. Fuse Holder -
This housing stores the 5 amp GMA protective fuse. Always replace with the exact same type fuse, unless otherwise instructed, by an authorized American DJ® service technician.

8. Power Cord -
Connect only to a matching power outlet. Never use this fixture is the ground prong has been removed or broken off.

Operating Modes:

You may operate your Centurion™ in three different ways:

• ***Stand Alone Mode*** - The unit will react to sound, chasing through the built in programs. You may also use the optional IRC/2 Remote to control a blackout function.

• ***Master/Slave Mode*** - This mode allows you to daisy chain up to 4 units together to get a synchronized light show that will react to sound and chase through the several built in programs.

• ***DMX Mode*** - This function will allow you to control each individual fixtures traits with a standard DMX 512 controller such as the American DJ Show Designer.™

Note: Stand-Alone and Master-Slave operation require sound to activate! If the units do not move adjust the volume sensitivity knob on the rear of the fixture.

Note: To conserve lamp life, the unit will automatically turn off the lamp when the fixture has been inactive for longer than 60 seconds. This is not a malfunction and will aid lamp and unit longevity by decreasing heat.

Stand-Alone Operation (Sound Active): This function allows a single unit to run to the beat of the music. Only use this function when running a single unit, or when running several units as individuals.

1. To activate the Sound-Active mode refer to *"Master Unit" on the Master-Slave DIP SWITCH chart on page* 3).
2. The unit will now react to the low frequencies of music via the internal microphone. The unit is preset to activate at a certain sound pressure level. Occasionally the unit will not react to certain high pitch sounds.
3. The optional *IRC/2 Controller* may be used with this mode to control stand-by (blackout), gobo change, and to switch between sound-active and manual modes.

Master-Slave Operation (Sound Active): This function will allow you to link up to 4 units together and operate without a controller or with the IRC/2. The units will react to sound. In Master-Slave operation one unit will act as the controlling unit and the others will react to the controlling units programs. Any unit can act as a Master or as a Slave.

1. Using standard XLR microphone cables, daisy chain your units together via the XLR connector on the rear of the units. Remember the Male XLR connector is the input and the Female XLR connector is the output. The first unit in the chain (master) will use the female XLR connector only - The last unit in the chain will use the male XLR connector only. For longer cable runs we suggest a terminator at the last fixture.
2. Follow the chart on page 3 for proper unit dip switch settings.
3. The optional *IRC/2 Controller* may be used with this mode to control stand-by (blackout), gobo change, and to switch between sound-active and manual modes.
4. After all the units settings have been set and are plugged in, they will begin to run to sound. If there is no sound present the units will blackout to preserve and extended lamp life.

Universal DMX Control: This function allows you to use a universal DMX-512 controller such as the American DJ® DMX Operator™ or Show Designer.™ to control mirror movement, shutter speed, and the color/gobo wheel. Using a DMX controller will allow you to customize programs and expand functionality. Operating through a DMX controller gives freedom to create unique programs tailored to one's individual needs.

1. The Centurion™ uses 3 DMX channels. Channel 1 controls shutter channel 2 controls the color/gobo wheel, and channel 3 controls the mirror rotation. See page 14 for detailed description of the DMX traits.
2. To control your fixture in DMX mode, follow the set-up procedures on pages 9 - 11 as well as the set-up specifications that are included with your DMX controller.
3. Use the controller's faders to control the various DMX fixture traits.
4. This will allow you to create your own programs.
5. When using a DMX controller and setting up for DMX operation follow the dip switch settings on page 14.
6. For help operating in DMX operation consult the manual included with your DMX controller.
7. For longer cable runs (more than a 100 feet) use a terminator on the last fixture.

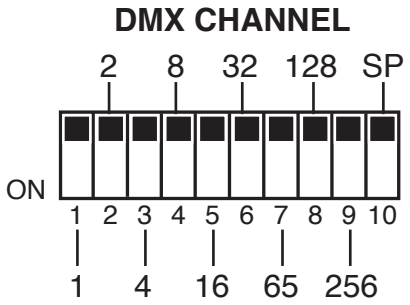
Power Supply: Before plugging your unit in, be sure the source voltage in your area matches the required voltage for your American DJ® Centurion.™ The American DJ® Centurion™ is available in a 120v and 220v version. Because line voltage may vary from venue to venue, you should be sure your unit voltages matches the wall outlet voltage before attempting to operate you fixture.

DMX-512: DMX is short for Digital Multiplex. This is a universal protocol used as a form of communication between intelligent fixtures and controllers. A DMX controller sends DMX data instructions from the controller to the fixture. DMX data is sent as serial data that travels from fixture to fixture via the DATA "IN" and DATA "OUT" XLR terminals located on all DMX fixtures (most controllers only have a DATA "OUT" terminal).

DMX Linking: DMX is a language allowing all makes and models of different manufactures to be linked together and operate from a single controller, as long as all fixtures and the controller are DMX compliant. To ensure proper DMX data transmission, when using several DMX fixtures try to use the shortest cable path possible. The order in which fixtures are connected in a DMX line does not influence the DMX addressing. For example; a fixture assigned a DMX address of 1 may be placed anywhere in a DMX line, at the beginning, at the end, or anywhere in the middle. When a fixture is assigned a DMX address of 1, the DMX controller knows to send DATA assigned to address 1 to that unit, no matter where it is located in the DMX chain.

Dip-switches in DMX mode: This unit uses dip switches to assign a DMX address. Each dip switch represents a binary value.

Dip Switch 1 address equals 1
Dip Switch 2 address equals 2
Dip Switch 3 address equals 4
Dip Switch 4 address equals 8
Dip Switch 5 address equals 16
Dip Switch 6 address equals 32
Dip Switch 7 address equals 64
Dip Switch 8 address equals 128
Dip Switch 9 address equals 256



Dip Switch 10 - Some unit omit dip switch 10. When a unit does included

dip switch 10 it is used for special functions such as sound activation.

Each dip switch has a preset value. A specific DMX address is set by combining the dip switches that sum your desired value. For example: To achieve a DMX address of 21, combine dip switches 1, 3, and 5. Sense dip switch 1 has a value of 1, dip switch 3 has a value of 4, and dip switch 5 has a value of 16, the combination of the create a DMX value of 21.

Set DMX address 21:
Dip switch # 1 = 1
Dip switch # 3 = 4
Dip switch # 5 = 16
= 21

Set DMX address 201:
Dip switch # 1 = 1
Dip switch # 4 = 8
Dip switch # 7 = 64
Dip switch # 8 = 128
= 201

Data Cable (DMX Cable) Requirements (For DMX and Master/ Slave Operation): The Centurion™ can be controlled via DMX-512 protocol. The American DJ® Centurion™ is a four channel DMX unit. The DMX address is set on the front panel of the Centurion™. Your unit and your DMX controller require a standard 3-pin XLR connector for data input and data output (Figure 1). If you are making your own cables, be sure to use standard two conductor shielded cable (This cable may be purchased at almost all pro sound and lighting stores). Your cables should be made with a male and female XLR connector on either end of the cable. Also remember that DMX cable must be daisy chained and can not be split.

Figure 1

Notice: Be sure to follow figures two and three when making your own cables. Do not use the ground lug on the XLR connector. Do not connect the cable's shield conductor to the ground lug or allow the shield conductor to come in contact with the XLR's outer casing. Grounding the shield could cause a short circuit and erratic behavior.

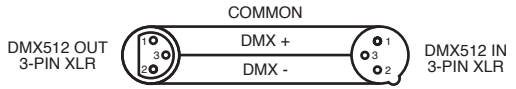
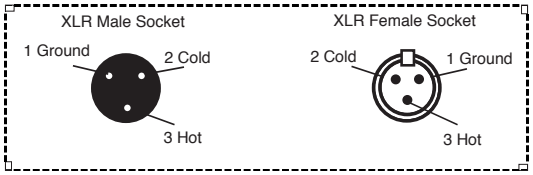


Figure 2



XLR Pin Configuration
Pin 1 = Ground
Pin 2 = Data Compliment (negative)
Pin 3 = Data True (positive)

Figure 3

Special Note: Line Termination. When longer runs of cable are used, you may need to use a terminator on the last unit to avoid erratic behavior. A terminator is a 90-120 ohm 1/4 watt resistor which is connected between pins 2 and 3 of a male XLR connector (DATA + and DATA -). This unit is inserted in the female XLR connector of the last unit in your daisy chain to terminate the line. Using a cable terminator (ADJ part number ZDMX/T) will decrease the possibilities of erratic behavior.

Termination reduces signal errors and avoids signal transmission problems and interference. It is always advisable to connect a DMX terminal, (Resistance 120 Ohm 1/4 W) between PIN 2 (DMX-) and PIN 3 (DMX +) of the last fixture.

Figure 4

5-Pin XLR DMX Connectors. Some manufactures use 5-pin XLR connectors for DATA transmission in place of 3-pin. 5-pin XLR fixtures may be implemented in a 3-pin XLR DMX line. When inserting standard 5-pin XLR connectors in to a 3-pin line a cable adaptor must be used, these adaptors are readily available at most electric stores. The chart below details a proper cable conversion.

3-Pin XLR to 5-Pin XLR Conversion		
Conductor	3-Pin XLR Female (Out)	5-Pin XLR Male (In)
Ground/Shield	Pin 1	Pin 1
Data Compliment (- signal)	Pin 2	Pin 2
Data True (+ signal)	Pin 3	Pin 3
Not Used		Do Not Use
Not Used		Do Not Use

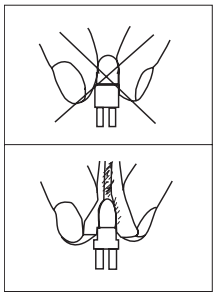
Caution: *Always replace with the exact same type lamp and fuse, unless otherwise specified by an authorized American DJ® technician. Replace with anything other than the specified part can damage your unit and will void your manufactures warranty.*

Warning: *If, after replacing the lamp or fuse either one continues to blow, STOP using the unit. Contact customer support for further instructions, you may have to return the unit for servicing. Continuing to use the unit may cause serious damage.*

Fuse Replacement: Disconnect the unit's main power supply. Insert a standard flat head screw driver in to the fuse holder housing. Turn the screwdriver in counter-clockwise direction to remove the fuse holder. Remove the fuse holder to expose the fuse. Remove the old fuse and discard it. Replace the fuse with the same type. Insert the fuse holder back into it's housing and turn it in clockwise direction to lock the holder in place.

Lamp Replacement: Caution! Never attempt to change the lamp while the fixture is plugged in. Always disconnect the main power and allow the unit ample time to cool before attempting to replace the lamp. Lamp replacement has been made simple by incorporating the use of a flip-up front cover that is retained by thumb screws.

1. Be sure to follow the proper handling procedures that deal with halogen lamps.
2. Remove the two thumb screws on the front of the unit.
3. After removing the thumb screws, pull off socket assembly protective cover.
4. Carefully remove the old lamp and discard it in the trash.
5. Replace the lamp with an exact match and reassemble in reverse order.



Halogen Lamp Warning: This fixture is fitted with halogen lamps which are highly susceptible to damage if improperly handled. Never touch the lamps with your bare fingers as the oil from your hands will shorten lamp life. Also, never move the fixture until the lamps have had ample time to cool. Remember, lamps are not covered under warranty conditions.

Centurion™ Cleaning

Fixture Cleaning: Due to fog residue, smoke, and dust cleaning the internal and external optical lenses and mirror should be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates (I.e. smoke, fog residue, dust, dew). In heavy club use we recommend cleaning on a monthly basis. Periodic cleaning will ensure longevity, and crisp output.

1. Use normal glass cleaner and a soft cloth to wipe down the outside casing.
2. Use a brush to wipe down the cooling vents and fan grill.
3. Clean the external optics and mirror with glass cleaner and a soft cloth every 20 days.
4. Clean the internal optics with glass cleaner and a soft cloth every 30-60 days.
5. Always be sure to dry all parts completely before plugging the unit back in.

Centurion™ Trouble Shooting

Trouble Shooting: Listed below are a few common problems that you may encounter, with solutions.

No light output from the unit;

1. Be sure you have connected your unit into a wall outlet with a matching power supply.
2. Be sure the external fuse has not blown. The fuse is located on the rear panel of the unit.
3. Remove the lamp cover and be sure the lamp is seated in its socket properly. Occasionally lamps become loose during shipping be sure the lamp is push in to its socket all the way.
4. Be sure the fuse holder is completely and properly seated.

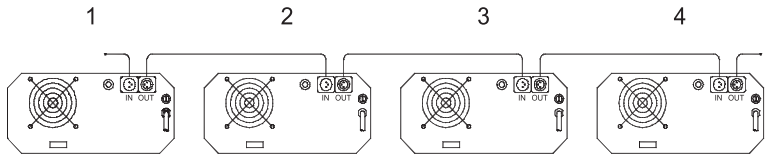
Unit does not respond to sound;

1. Low frequencies (bass) should cause the unit to react to sound. Tapping on the microphone, quiet or high pitched sounds may not activate the unit.

Centurion™ DMX Traits

The charts below details the DMX traits and the gobo patterns. The individual trait can only be accessed by an universal DMX controller.

Centurion™ DMX Traits				Gobos
DMX values	Channel 1 Shutter	Channel 2 Gobo / Color	Channel 3 Reflector Mirror	
255	Fast Strobe	Fastest Speed	Stop	14
246				13
245				12
135				11
128		Slowest Speed	Stop	10
120		Gobo 14 / Green & Pink		9
112		Gobo 13 / White		8
104		Gobo 12 / Blue		7
96		Gobo 11 / Orange		6
88		Gobo 10 / Magenta		5
80		Gobo 9 / Pink		4
72		Gobo 8 / Light Blue		3
64		Gobo 7 / Magenta		2
56		Gobo 6 / Red		1
48		Gobo 5 / Orange		
40		Gobo 4 / Green		
32		Gobo 3 / Yellow		
24		Gobo 2 / Blue		
16	Slow Strobe	Gobo 1 / Multi-Color		
11	Stop	OPEN		
8				
0		Blackout	Stop	



Centurion™ DMX Dip Switch Chart

This chart list the DMX dip switch setting for DMX address 1 through 511. Follow the instructions below to configure fixture dip switches with your desired DMX address.

DMX Address Quick Reference Chart

DIP SWITCHES

Dip Switch Position

DMX DIP Switch Settings X = OFF O = ON																			
					#9	X	X	X	X	X	X	X	X	O	O	O	O	O	O	O	O
					#8	X	X	X	X	O	O	O	O	X	X	X	X	O	O	O	O
					#7	X	X	O	O	X	X	O	O	X	X	O	O	X	X	O	O
					#6	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O
#1	#2	#3	#4	#5																	
X	X	X	X	X			3	64	96	128	160	192	224	256	288	320	352	384	416	448	480
O	X	X	X	X		1	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481
X	O	X	X	X		2	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482
O	O	X	X	X		3	35	67	99	131	163	195	227	259	291	323	355	387	419	451	483
X	X	O	X	X		4	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484
O	X	O	X	X		5	37	69	101	133	165	197	229	261	293	325	357	389	421	453	485
X	O	O	X	X		6	38	70	102	134	166	198	230	262	294	326	358	390	422	454	486
O	O	O	X	X		7	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487
X	X	X	O	X		8	40	72	104	136	168	200	232	264	296	328	360	392	424	456	488
O	X	X	O	X		9	41	73	105	137	169	201	233	265	297	329	361	393	425	457	489
X	O	X	O	X		10	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490
O	O	X	O	X		11	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491
X	X	O	O	X		12	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492
O	X	O	O	X		13	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493
X	O	O	O	X		14	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494
O	O	O	O	X		15	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495
X	X	X	X	O		16	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496
O	X	X	X	O		17	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497
X	O	X	X	O		18	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498
O	O	X	X	O		19	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499
X	X	O	X	O		20	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500
O	X	O	X	O		21	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501
X	O	O	X	O		22	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502
O	O	O	X	O		23	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503
X	X	X	O	O		24	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504
O	X	X	O	O		25	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505
X	O	X	O	O		26	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506
O	O	X	O	O		27	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507
X	X	O	O	O		28	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508
O	X	O	O	O		29	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509
X	O	O	O	O		30	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510
O	O	O	O	O		31	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511

Dip Switch Position

DMX Address

DMX Address

The center numbers of this chart (1-511) represent a DMX address. The "X"'s and "O"'s along the top and side of the chart represent dip switch poistion ("X" for off and "O" for on). Find your desired DMX address from the center chart. Identify the position for dip switches 1-5 from the chart on the left and dip switches 6-9 from the chart on the top. Adjust the dip switches on your fixture to match the position settings of the chart. For fixtures with 10 dip switches; dip switch 10 is reserved for special functions.

Technical Specifications:

Model:	***Centurion™***
Lamps:	LL-EFP, 12v/100w
Voltage:	120v~60Hz / 220v~50/60Hz
Dimensions:	10.3” x 9.5” x 5” 262mm x 240mm x 130mm
Colors	Multiple
Gobos:	14, Plus Spot
Weight:	12.76 Lbs. / 5.8 Kgs
Fuse:	5A (120v)/ 3A (220v)
Duty Cycle:	None
DMX:	3 Channels
Sound Active:	Yes
Working Position:	Any Safe, Secure Position
Warranty:	1 Year (365 days)

Please Note: *Specifications and improvements in the design of this unit and this manual are subject to change without any prior written notice.*

A Division of the American DJ® Group of Companies
©American DJ® World Headquarters:
4295 Charter Street Los Angeles, CA 90058 USA
Tel: 323-582-2650 Fax: 323-582-2610
Web: www.americandj.com E-mail: info@americandj.com