



User Instructions

American DJ
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Spiral Scan™

Introduction

General Instructions: Thank you for purchasing the American DJ® Spiral Scan.™ To optimize the performance of this product, please read these operating instructions carefully to familiarize yourself with the basic operations of this unit. Be sure you understand these instructions completely before attempting to operate this unit. The unit is not sound activated and does not include any built-in programs. To operate this unit you must use some type of universal DMX controller such as the American DJ® DMX Operator™ or American DJ® Show Designer.™ You may also consider the Auto-Mate™ by American DJ®, this is a mini DMX controller that comes with eight built in programs specifically for the Spiral Scan™ (please note that all programs in the Auto-Mate™ are preset and may not be changed).

Customer Support: American DJ® provides a toll free customer support line, to provide set up and installation 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. Toll free customer 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

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 type of repair yourself without the manufactures consent, doing so will void your warranty. In the unlikely event your unit may require service please contact American DJ® customer support.

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Discharge Lamp Warning

This fixture is fitted with a discharge lamp which is highly susceptible to damage if improperly handled. Never touch the lamp with your bare fingers as the oil from your hands will shorten the lamp life. Never install, mount, or place this fixture in areas prone to heavy vibration. Also, never move the fixture until the lamp has had ample time to cool. Remember, lamps are not covered under warranty conditions. Never remove the lamp socket assembly when the fixture is on.

Spiral Scan™

Unpacking

Every Spiral Scan™ 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 case damage has been found or parts are missing, please contact our toll free customer support number for further instructions, please do not return the unit to your dealer.

Spiral Scan™

Features

- Seven Vibrant Colors Plus White.
- Long Life (9000 hours) SC-150 Discharge Lamp.
- Variable Speed Shutter.
- Micro-Stepping Motors for Smooth Color and Gobo Transitions.
- Uses Five DMX Channels.
- Seven Rotating Gobos - Variable Gobo Rotation.
- DMX-512 Protocol Compatible
- Full Focusing.
- Split Color Capable.
- Fan Cooled.
- Seven Gobos Plus Spot.
- Changeable Gobos (Replaceable, 26mm outer diameter - 22mm viewing image)

Spiral Scan™

Product Registration

The Spiral Scan™ carries a one year (365 days) limited warranty. We recommend you 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.

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Safety Precautions

- 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 top cover under any conditions. There are no user serviceable parts inside.
- 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.
- Never operate this unit when it's cover is removed.
- To reduce the risk of electrical shock or fire, do not expose this unit rain or moisture
- 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 Cord Protection - 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 7 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.

Spiral Scan™

Set Up

Power Supply: Before plugging your unit in, be sure the source voltage in your area matches the required voltage for your American DJ® Spiral Scan.™ The American DJ® Spiral Scan™ 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.

Data Cable (DMX Cable) Requirements (For DMX and Master/Slave Operation):

The Spiral Scan can be controlled via DMX-512 protocol. The American DJ® Spiral Scan™ is a three channel DMX unit. The DMX address is set on the front panel of the Spiral Scan. 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 figure 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.

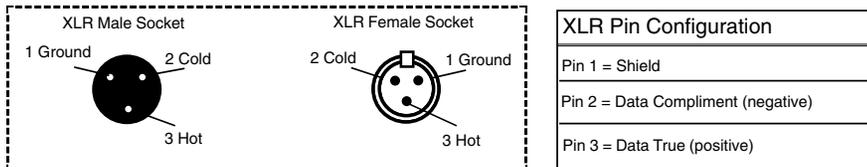


Figure 2

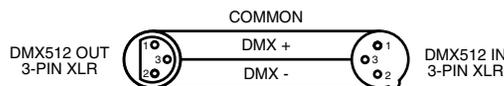


Figure 3

Spiral Scan™

Set Up

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.

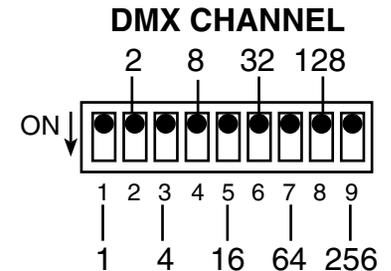
Figure 4

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DMX Addressing

DMX is short for Digital Multiplex. This is a universal binary language used as a form of communication between intelligent fixtures. 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



Each dip switch has a preset value, a desired DMX address is set by combining the dip switches that will create 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.

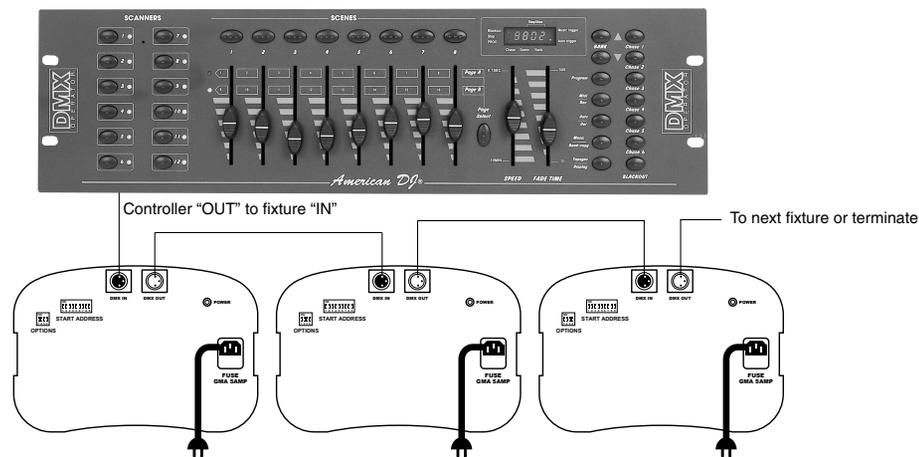
Set DMX address 21:
 Dipswitches # 1 = 1
 3 = 4
 5 = 16
 = 21

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

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Linking

Linking: Your fixture comes with a built-in controller. This controller may be used to control up to 16 units when daisy-chained together in a master-slave configuration. Any unit can function as either a “Master Unit” or a “Slave Unit.” Link the units together using standard DMX cable.



For a more dramatic effect, link several Spiral Scans together.

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Cleaning

Due to fog residue, smoke, and dust, cleaning the internal and external optical lenses must be carried out periodically to optimize light output.

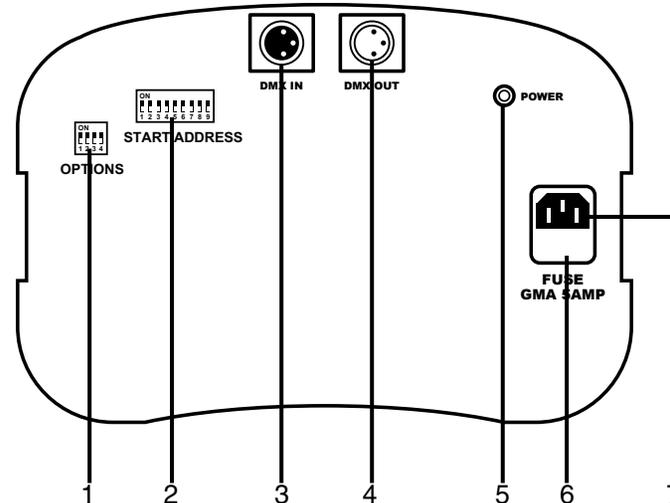
1. Use normal glass cleaner and a soft cloth to wipe down the outside casing.
2. Use a brush to wipe down the fan grill.
3. Clean the external optics with glass cleaner and a soft cloth every 20 days. Situation may vary. If used heavily in clubs with lots of fog, cleaning may be required more often.
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 in.

Cleaning frequency depends on the environment in which the fixture operates (i.e. smoke, fog residue, dust, dew).

Spiral Scan™

Controls and Functions

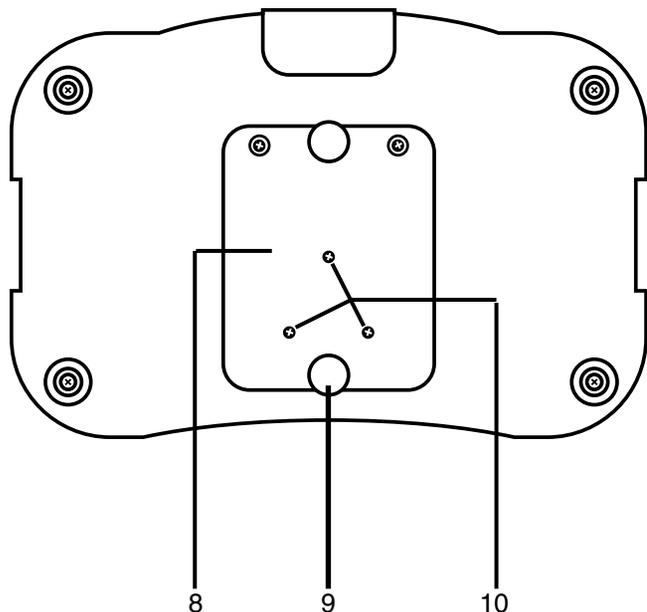
Top Panel



1. Option switches - These switches will activate one of four options:
 - Switch 1: Focus - When activated this switch will center the mirror with a white spot. This will allow you to focus the beam properly.
 - Switch 2: Self Test - When activate this function will activate a built in self test program.
 - Switch 3: Inverted Pan - When activated this switch will invert the PAN value. Left will become right and vice versa.
 - Switch 4: Inverted Tilt - When activated this switch will invert the TILT value. Up will become down and vice versa.
2. Dip Switches - These switches are used to set the DMX address. Each switch corresponds to a specific value based on binary code. See page 6 for a detailed explanation of DMX binary code.
3. XLR Input Jack - This jack is used to accept an incoming DMX signal.
4. XLR Output Jack - This jack is used to send the incoming DMX signal to another DMX fixture.
5. Power Indicator - This LED will glow when main power is applied.

6. Power Input- This male I.E.C. jack is used to feed main power to the fixture. Use the Supplied I.E.C. cord to supply main power to your fixture. Be sure the main power matches that of the required power of your fixture.
7. Fuse Holder - This houses the safety fuse. Be sure to always replace with the exact same type, unless otherwise instructed by authorized American DJ service technician.

Bottom Panel



8. Lamp Socket Assembly Plate - This plate accesses the lamp socket assembly.
9. Thumb Screw - These two thumb screw hold the assembly plate into place.
10. Lamp Optimization Screws - These three screws are spring loaded and are used to optimize the lamp. Use these three screws to center the lamp in the reflector.

DMX Operation:

This unit must be controlled with a DMX controller. This unit is not sound active and does not include any built in programs. For best result we recommend the American DJ® Show Designer or the American DJ® DMX Operator to control the Spiral Scan™.

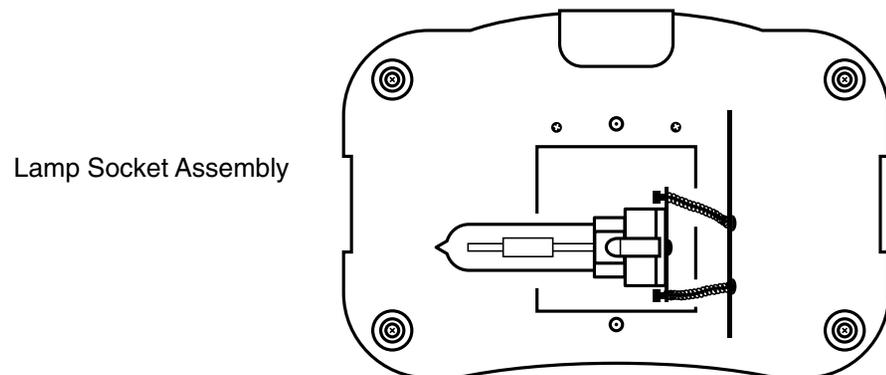
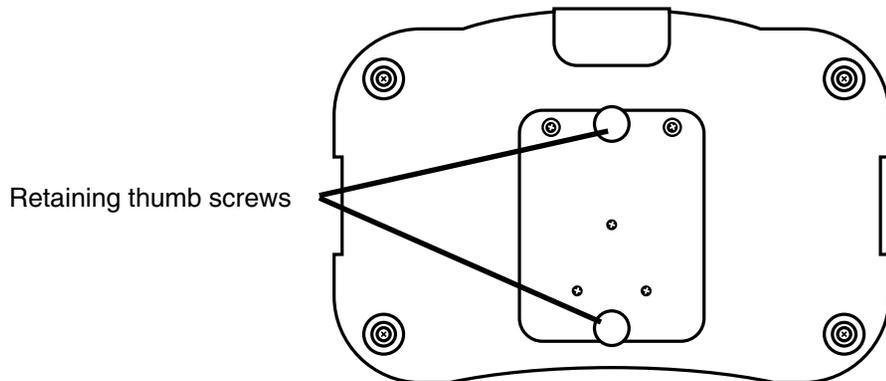
1. Operating through a DMX controller gives the user freedom to create custom programs tailored to personal needs. This function also allows you to use your fixtures as spots.
2. This operation will allow you to control each individual fixtures traits with a standard DMX 512 controller such as the American DJ® Show Designer™ or the American DJ® DMX Operator.™
3. The Spiral Scan™ uses four DMX channels to operate;
 - Channel 1 controls the Pan.
 - Channel 2 controls the Tilt.
 - Channel 3 controls the Color.
 - Channel 4 controls the Gobos.
 - Channel 5 controls the Gobo Rotation Speed.
4. To run your fixture in DMX mode, plug in the fixture via the XLR connections to any standard DMX controller. Follow the set-up specifications that come with the controller.
5. Use your controller to control the various fixture traits (Pan, Tilt, Color, Gobo, and Gobo Rotation Speed). A complete break down of the DMX traits can be found on page 14 of this manual.

Auto-Mate™/DMX Solo™ Operation:

The Auto-Mate™ and DMX Solo™ by American DJ®, are mini DMX controllers that come with built-in programs exclusively for the Spiral Scan.™ The Auto-Mate includes eight programs and the DMX Solo™ includes 16 built-in programs. Please note that all programs in the Auto-Mate™ are preset, but may be changed with the American DJ™ Show Designer.™ You may wish to use this optional controller as an inexpensive alternative to a full featured DMX controller. This option will also allow the fixture to be sound active. All set-up and installations procedures are the same as a standard DMX operation. For more information on either of these two optional controllers, please contact our toll free customer support number or see us on the web.

Lamp Replacement: Caution! Never open the unit when in use. Always disconnect the main power and allow the unit ample time to cool before attempting to replace the lamp. Remember always replace with the same type lamp and fuse.

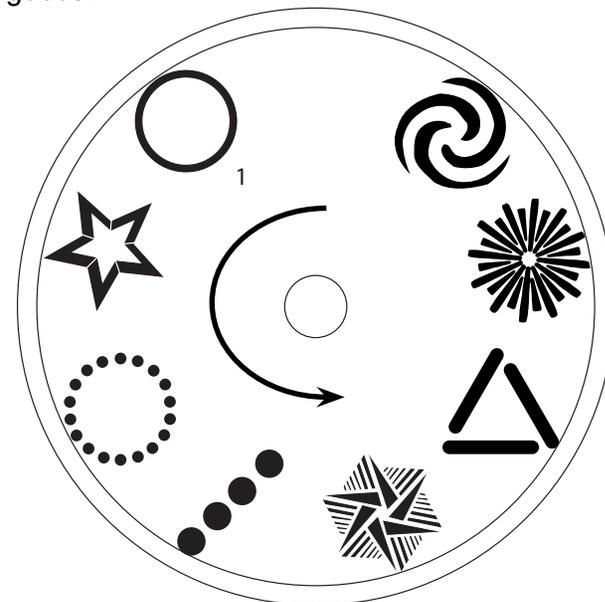
1. Be sure to follow the proper procedures when handling discharge lamps.
2. Lamp replacement has been made simple by incorporating the use of a removable cover and thumb screws.
3. Remove the two thumb screws on bottom of the unit that hold the socket assembly in place.
4. Carefully pull out the socket assembly.
5. Remove and replace the bulb.
6. Reassemble.



Focusing:

1. To focus a Spiral Scan,™ disconnect main power and flip the option dip switch one to the on position. Then reconnect main power.
2. After the unit resets the lamp will strike. The mirror will center and a preselected gobo will projected.
3. Loosen the thumb screw on the front of the unit that hold the lens in place.
4. Adjust the focus by manually moving the lens up and down.
5. Tighten the thumb screw after you achieve your desired focus.
6. Disconnect main power and return the number one option dip switch to the off position.
7. Reconnect main power.

This chart details the gobo pattern as well as the gobo wheel placement. When used with a DMX controller gobo one may be used as a spot or color changer. Gobos two through eight will rotate, rotation will be controlled by DMX channel five. Gobos two through eight may also be replaced with custom gobos. Please contact customer service for custom gobos.



Spiral Scan™

Traits

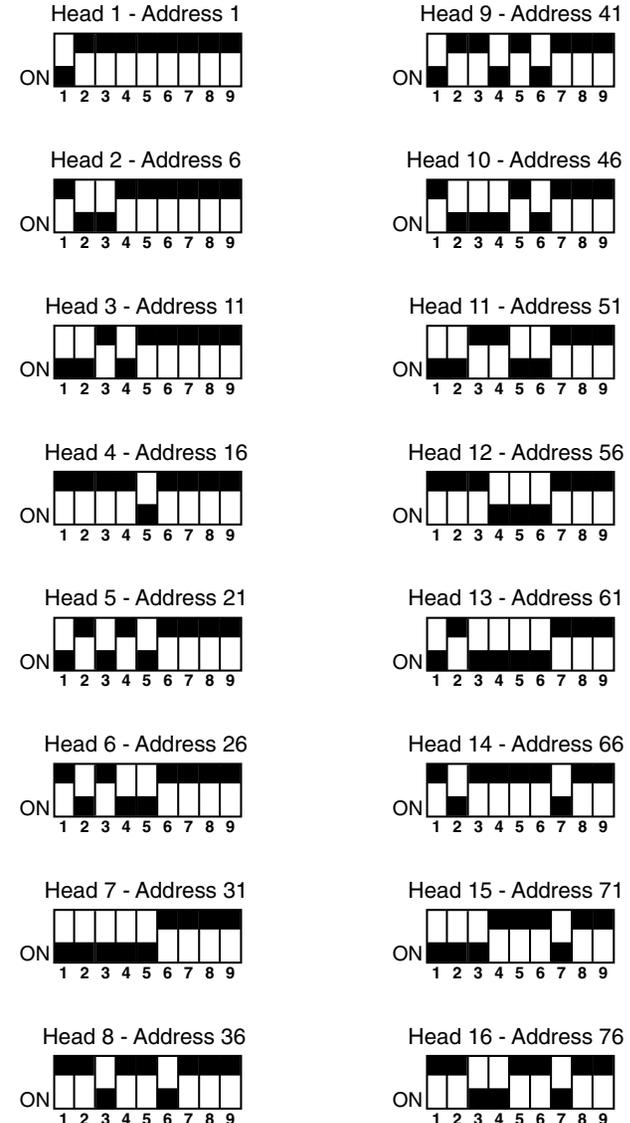
The Spiral Scan™ is a five DMX channel intelligent scanner. This chart details the DMX traits of the Spiral Scan.™ Use your controller's fader levels to scroll through the different values. Each fader value dictates the fixtures operation.

CHANNEL					
DMX512 LEVEL RANGE 0 - 255	1 PAN	2 TILT	3 COLOR	4 GOBO	5 ROTATION
255					
200			MAGENTA		
99			ORANGE		
95					
89			YELLOW		
85					
79			GREEN		
75					
69			BLUE		
65					
59			BLACKOUT		
55					
49					
45					
39					
35					
29					
25					
19					
15					
9					
5					
0					

Spiral Scan™

DMX Dip Switch Chart

This chart lists the DMX dip switch setting for the first 16 units. This chart is set as a guide only. Please follow standard binary DMX protocol as described on page 6 for proper dip switch settings beyond the sixteenth unit or for units not starting at DMX channel one. For the American DJ® DMX Operator™ setting please refer to the DMX Operator™ manual.



1-YEAR LIMITED WARRANTY

A. American DJ® hereby warrants, to the original purchaser, American DJ® products to be free of manufacturing defects in material and workmanship for a period of 1 Year (365 days) from the date of purchase. This warranty shall be valid only if the product is purchased within the United States of America, including possessions and territories. It is the owner's responsibility to establish the date and place of purchase by acceptable evidence, at the time service is sought.

B. For warranty service, send the product only to the American DJ® factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, American DJ® will pay return shipping charges only to a designated point within the United States. If the entire instrument is sent, it must be shipped in its original package. No accessories should be shipped with the product. If any accessories are shipped with the product, American DJ® shall have no liability whatsoever for loss of or damage to any such accessories, nor for the safe return thereof.

C. This warranty is void if the serial number has been altered or removed; if the product is modified in any manner which American DJ® concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the American DJ® factory unless prior written authorization was issued to purchaser by American DJ®; if the product is damaged because not properly maintained as set forth in the instruction manual.

D. This is not a service contract, and this warranty does not include maintenance, cleaning or periodic check-up. During the period specified above, American DJ® will replace defective parts at its expense, and will absorb all expenses for warranty service and repair labor by reason of defects in material or workmanship. The sole responsibility of American DJ® under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of American DJ®. All products covered by this warranty were manufactured after January 1, 1990, and bear identifying marks to that effect.

E. American DJ® reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products theretofore manufactured.

F. No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with products described above. Except to the extent prohibited by applicable law, all implied warranties made by American DJ® in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty period set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said period has expired. The consumer's and or Dealer's sole remedy shall be such repair or replacement as is expressly provided above; and under no circumstances shall American DJ® be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product.

G. This warranty is the only written warranty applicable to American DJ® Products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

H. Lamps are not covered under this or any other warranty, either written or implied.

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MODEL: SPIRAL SCAN™**SPECIFICATIONS:**

VOLTAGE*:	120v~60Hz / 220v~50Hz
LAMP:	SC-150 120v/150w
DIMENSIONS:	23" H X 10.5" W X 11" D (with yoke extended)
WEIGHT:	31 LBS / 12.5 KGS.
FUSE:	5 AMP GMA
WORKING POSITION:	ANY SAFE POSITION
COOLING:	FAN COOLED
DUTY CYCLE:	30 MIN. ON, 10 MIN. OFF
GOBOS:	7 PLUS SPOT - CHANGEABLE (26mm outer diameter - 22mm viewing image)
COLORS:	7 PLUS WHITE - SPLIT COLOR CAPABLE
DMX CHANNELS:	5
Sound Active:	No

* Operating voltage is preset at the factory.

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

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