

American DJ® SPECTRUM LED



User Instructions

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

Rev. 6/07

Spectrum LED™

Introduction

Unpacking: Thank you for purchasing the Spectrum LED™ by American DJ®. Every Spectrum LED™ 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 accessories necessary to operate the unit has arrived intact. In the case 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: The Spectrum LED™ is part of American DJ's continuing pursuit for creating high quality affordable intelligent fixtures. The Spectrum LED™ is a bright DMX intelligent LED special effect fixture. The Spectrum LED™ can be used in a stand alone mode or connected in a Master/Slave configuration. The unit can also be controlled via DMX controller. This wash has four operating modes: Program mode, Sound Active mode, Auto mode, and DMX control mode.

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) 582-2941

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®.

PLEASE recycle the shipping carton when ever possible.

Spectrum LED™

General 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. Please keep this manual with the unit, for future reference.

Spectrum LED™

Features

- Multicolors
- Four Operating Modes
- Built in Microphone
- DMX-512 protocol
- Uses Four DMX Channels

Spectrum LED™

Warranty Registration

The Spectrum LED™ carries a 3 year (1095 days) limited warranty. Please fill out the enclosed warranty card to validate your purchase and warranty. You may also register your product online at www.americandj.com. 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.

Spectrum LED™

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 manner.
- 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 the point they exit from the unit.
- Cleaning -The fixture should be cleaned only as recommended by the manufacturer. See page 10 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.

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

Data Cable (DMX Cable) Requirements (For DMX Operation):

The Spectrum LED™ can be controlled via DMX-512 protocol. The Spectrum LED™ is a four channel DMX unit. The DMX address is set on the rear panel of the Spectrum LED™. 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.

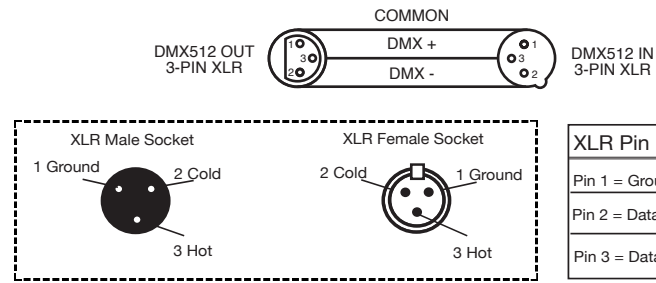


Figure 3

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 Z-DMX/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

Note: To deactivate the American DJ intro scroll, first make sure power is off. With the power off, press and hold the SET UP, MODE and DOWN buttons and turn the power ON all at the same time. To activate the American DJ intro scroll, press and hold the SET UP, MODE, and UP buttons and turn the power ON all at the same time.

Operating Modes:

You can use the Spectrum LED™ in either a stand alone mode or a master/slave configuration, there are 4 modes to choose from:

Master-Slave Operation:

This function will allow you to link units together to run in a Master-Slave mode. In Master-Slave operation one unit will act as the controlling unit and the others will react to the controlling units built-in programs. Any unit can act as a Master or as a Slave however, only one unit can be programmed to act as the “Master.”

Master-Slave Connections and Settings:

1. Daisy chain your units via the XLR connector on the rear of the unit. Use standard XLR microphone cables to link your units together. Remember that 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.
2. Using the Master unit, choose your desired mode and connect the “Slave” unit or units.
3. Set the “Slave” unit(s) to the “Slave” mode by pressing the MODE button until “SLAV” is displayed. They will now follow the “Master” unit.

Program Mode:

Select the design that you want to project, and set the speed and flash rate.

1. Plug the fixture in and press the MODE button until “PR.XX” is displayed. Press either the UP or DOWN to choose one of 25 different programs. Once you have selected your desired program press the SET UP button.
2. “SP.XX” is now displayed. Now you are able to adjust the speed of the program by pressing either the UP or DOWN buttons.

Choose between 1-99, one being the slowest, 99 being the fastest. Select your desired speed and press the SET UP button.

3. “FS.XX” is now displayed. Now you are able to adjust the flash speed of the program by pressing either the UP or DOWN buttons. Choose between 00-99, 00 being the slowest, 99 being the fastest. Select your desired speed and press the SET UP button. Your program should start to run with your desired settings.

Auto Mode:

1. Plug the fixture in and press the MODE button until “AUTO” is displayed. There are 25 different programs that will continue to run and recycle.

Sound Active Mode:

In this mode the Spectrum LED™ will react to sound, and chase through the different colors.

1. Plug the fixture in and press the MODE button until “SU.XX” is displayed.
2. The fixture will now change color via sound.
3. Pressing the UP or DOWN buttons will adjust the sound sensitivity level of fixture. You can adjust the levels between 00-31. 00 being the least sound sensitive, and 31 being the most sound sensitive.

DMX Mode:

Operating through a DMX controller give the user the freedom to create their own programs tailored to their own individual needs.

1. This function will allow you to control each individual fixture’s traits with a standard DMX 512 controller such as the Elation® Show Designer™ or the Elation® DMX Operator.™
2. The Spectrum LED™ uses four DMX channels to operate.
3. To run your fixture in DMX mode, plug in the fixture via the XLR connections to any standard DMX controller.
4. Press the MODE button until “D.XXX” is displayed. You can now set the DMX address.
6. Please see page 9 for DMX values and traits.

Spectrum LED™		DMX Values and Functions
Channel	Value	Function
1	0 - 249 250 - 255	25 AUTO PROGRAMS SOUND ACTIVE
2	0 - 255	PROGRAM SPEED SLOW → FAST
3	0 - 255	STROBE SLOW → FAST
4	0 - 255	SOUND SENSITIVITY LEAST SENSITIVE → MOST SENSITIVE

When using sound active in DMX mode Channel 2 will control the response speed of the sound sensitivity. Channel 2 must be used in conjunction with Channel 4.

Example: If you want the unit to be the most sensitive to sound and respond the fastest, Channel 4 should be at 255 and Channel 2 should be at 255.

Spectrum LED™	Trouble Shooting
Listed below are a few common problems the user may encounter, with solutions.	
<i>Unit not responding to DMX:</i>	
<ol style="list-style-type: none"> 1. Check that the DMX cables are connected properly and are wired correctly (pin 3 is “hot”; on some other DMX devices pin 2 may be ‘hot’). Also, check that all cables are connected to the right connectors; it does matter which way the inputs and outputs are connected. 	
<i>Unit does not respond to sound:</i>	
<ol style="list-style-type: none"> 1. Quiet or high pitched sounds will not activate the unit. 	
<i>If problems are not resolved; Contact American DJ® for service.</i>	
1-800-322-6337	

Spectrum LED™	Cleaning
Due to fog residue, smoke, and dust cleaning the internal and external optical lenses must be carried out periodically to optimize light output.	
<ol style="list-style-type: none"> 1. Use normal glass cleaner and a soft cloth to wipe down the outside casing. 2. Clean the external optics with glass cleaner and a soft cloth every 20 days. 3. Always be sure to dry all parts completely before plugging the unit back in. 	
Cleaning frequency depends on the environment in which the fixture operates (i.e. smoke, fog residue, dust, dew).	

Spectrum LED™

Warranty

MANUFACTURER'S LIMITED WARRANTY

A. American DJ, Inc. hereby warrants, to the original purchaser, American DJ and American Audio products to be free of manufacturing defects in material and workmanship for a prescribed period from the date of purchase (see specific warranty period on reverse). 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 you must obtain a Return Authorization number (RA#) before sending back the product. Contact American DJ, Inc. Service Department at 800-322-6337. Send the product only to the American DJ, Inc. 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, Inc. 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, Inc. 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, Inc. concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the American DJ, Inc. factory unless prior written authorization was issued to purchaser by American DJ, Inc.; 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, Inc. will replace defective parts at its expense with new or refurbished parts, 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, Inc. 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, Inc. 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. 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, Inc. 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, Inc. be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product.

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

MANUFACTURER'S LIMITED WARRANTY PERIODS:

- All American Audio Products = 1-year (365 day) Limited Warranty (except V-Plus Series Amplifiers)
- All American Audio V-Plus Series Amplifiers = 3-year (1095 day) Limited Warranty
- American DJ Lighting and American DJ Branded Products = 1-year (365 day) Limited Warranty (Such as: Special Effect Lighting, Intelligent Lighting, UV lighting, Strobos, Fog Machines, Bubble Machines, Mirror Balls, Par Cans, Trussing, Lighting Stands etc. excluding Laser Products, lamps, and Star Tec Series)
- American DJ Laser Products and Star Tec Products = 90-Day Limited Warranty
- American DJ L.E.D. Products = 3-year (1095 day) Limited Warranty (excluding motors which have a 1-year (365 day Limited Warranty)

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Spectrum LED™

Specifications

Model: Spectrum LED™

SPECIFICATIONS:

Lamps:	64 LED's; 32R, 20G, & 12B
Working Position:	Any safe working position
Voltage:	120V or 230V
Wattage:	30W
Power Draw:	0.1 Amps
Weight:	7lbs./ 3.4Kgs.
Dimensions:	7.0" (L) x 9.0" (W) x 5.0" (H) 177 (L) x 228 (W) x 127 (H) mm
Colors:	RGB Color Mixing
DMX Channels:	4 DMX Channels
Warranty:	3 Years (1095 days)

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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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