

American DJ® **SUNRAY** TRI LED DMX



User Instructions

American DJ
6122 S. Eastern Ave.
Los Angeles CA. 90040
www.americandj.com

Rev. 4/09

Sunray Tri LED DMX™

General Information

Unpacking: Thank you for purchasing the Sunray Tri LED DMX™ by American DJ®. Every Sunray Tri LED DMX™ 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: The Sunray Tri LED DMX™ is part of American DJ's continuing pursuit for creating and upgrading affordable intelligent fixtures. The Sunray Tri LED DMX™ is a colorful upgrade to our Sunray LED DMX. The Sunray Tri LED DMX™ is a DMX intelligent centerpiece. This fixture can be used as a stand alone piece or connected in a Master/Slave configuration. The unit can sound active, run in a auto mode or be controlled via DMX controller. When used in DMX mode the fixture uses 3 DMX channels.

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 manufacturer's warranty. In the unlikely event your unit may require service please contact American DJ®.

Sunray Tri LED DMX™**General Instructions**

Please carefully read and understand the instructions in this manual thoroughly before attempting to operate 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.

Sunray Tri LED DMX™**Product Registration**

The Sunray Tri LED DMX™ 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.

Sunray Tri LED DMX™**Main Features**

- Bright 3 Watt LED
- Produces 34 Colors, using Green, Purple, Blue, Yellow, & Orange
- DMX-512 Compatible
- Master/Slave Operation
- 3 DMX Channels
- Optional UC3 Controller Compatible (Not Included)

Sunray Tri LED DMX™**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 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.

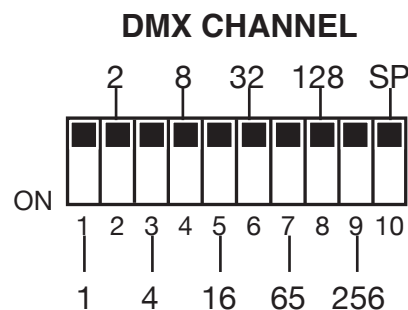
Power Supply: Before plugging your unit in, be sure the source voltage in your area matches the required voltage for your American DJ® Sunray Tri LED DMX.™ The American DJ® Sunray Tri LED DMX™ is available in a 120v and 220v version. Because line voltage may vary from venue to venue, you should be sure 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 dipswitches to assign a DMX address. Each dipswitch represents a binary value.

Dipswitch 1 address equals 1
Dipswitch 2 address equals 2
Dipswitch 3 address equals 4
Dipswitch 4 address equals 8
Dipswitch 5 address equals 16
Dipswitch 6 address equals 32
Dipswitch 7 address equals 64
Dipswitch 8 address equals 128
Dipswitch 9 address equals 256
Dipswitch 10 - Some units omit 0



dipswitch 10 it is used for special functions.

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

Set DMX address 21:

Dipswitch # 1 = 1
Dipswitch # 3 = 4
Dipswitch # 5 = 16
= 21

Set DMX address 201:

Dipswitch # 1 = 1
Dipswitch # 4 = 8
Dipswitch # 7 = 64
Dipswitch # 8 = 128
= 201

Data Cable (DMX Cable) Requirements (For DMX and Master/Slave Operation): The Sunray Tri LED DMX™ can be controlled via DMX-512 protocol. The American DJ® Sunray Tri LED DMX™ is a three channel DMX unit. The DMX address is set below the dome of the Sunray Tri LED DMX™. 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



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.

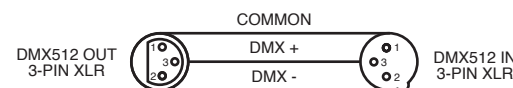


Figure 2

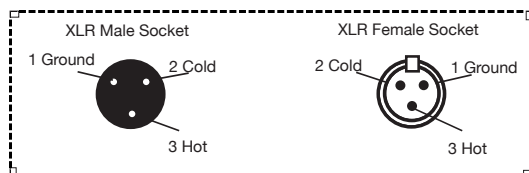


Figure 3

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

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

Operating Modes:

Stand-Alone Operation (Sound Active and Auto Program):

Sound Active:

- Put dipswitch #1 in the 'On' position. The unit will react to the low frequencies of music via the microphone.

Auto Program:

- To run the Auto Program, put dipswitches 1 & 2 in the "On" position.
Dipswitch 3 will reverse the rotation.
Dipswitches 4, 5, & 6 will control the speed of rotation.
- The optional *UC3 Controller* (not included) may be used to control different functions including blackout. See the next page for UC3 controls..

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."

- 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. For longer cable runs we suggest a terminator at the last fixture.
- Simply daisy chain the units together using XLR cables.
- For the Master unit put dipswitch 1 in the "On" position, and all other dipswitches in the "Off" position. For the Slave units, put any dipswitch in the "On" position, except the #1 dipswitch.
The #1 dipswitch must stay in the "Off" position on all Slave units.
- The optional *UC3 Controller* (not included) may be used to control different functions including blackout. See the next page for UC3 controls.

Universal DMX Control: This function allows you to use a universal DMX-512 controller such as the Elation® DMX Operator™ or Show Designer™ to control the DMX traits. Operating through a DMX

Sunray Tri LED DMX™ Operation

controller gives freedom to create unique programs tailored to one's individual needs.

1. The Sunray Tri LED DMX™ uses 3 DMX channels. Channel 1 controls the dimmer/strobe, channel 2 controls color selection and channel 3 controls dome rotation. See the bottom of this page for the DMX traits.
2. To control your fixture in DMX mode, follow the set-up procedures on pages 5 - 7 as well as the set-up specifications that are included with your DMX controller. Using the dipswitches assign a DMX address to the unit. See page 7 for addressing.
3. For help operating in DMX operation consult the manual included with your DMX controller.
4. For longer cable runs (more than a 100 feet) use a terminator on the last fixture.

Sunray Tri LED DMX™		DMX Traits
Channel	Value	Function
1 ↓	0 - 7	<u>DIMMER/STROBE</u> CLOSED
	8 - 199	DIMMER 0% - 100%
	200 - 247	STROBING FAST - SLOW
	248 - 255	OPEN
2	0 - 255	COLOR SELECTION
3 ↓	0 - 9	<u>DOMES ROTATION</u> NO ROTATION
	10 - 120	CLOCKWISE FAST - SLOW
	121 - 134	NO ROTATION
	135 - 245	COUNTER-CLOCKWISE SLOW - FAST
	246 - 255	NO ROTATION

Sunray Tri LED DMX™ UC3 Control

Stand by	Blackout the unit	
Function	1. Synchronous Strobe 2. Two light Strobe 3. Sound Strobe	Rotation Speed 1-8
	Mode	Strobe (LED OFF) Rotation (LED ON)

Sunray Tri LED DMX™ 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 old fuse and discard it, replace the fuse with the same type. Insert the fuse holder back into it's housing and turn in clockwise direction to lock the holder in place.

Sunray Tri LED DMX™ 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 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.

Sunray Tri LED DMX™

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 it's 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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Technical Specifications:

Model:	Sunray Tri LED DMX™
LEDs:	One 3 Watt
Colors:	RGB
Voltage:	100v~240v/ 50~60Hz
Dimensions:	8.25" (L) x 8.25" (W) x 7" (H) 210mm x 210mm x 179mm
Weight:	4 Lbs. / 1.8 Kgs
Power Consumption:	13W
Fuse:	1 Amp GMA
Duty Cycle:	None
DMX:	3 Channels
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.

American DJ®

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