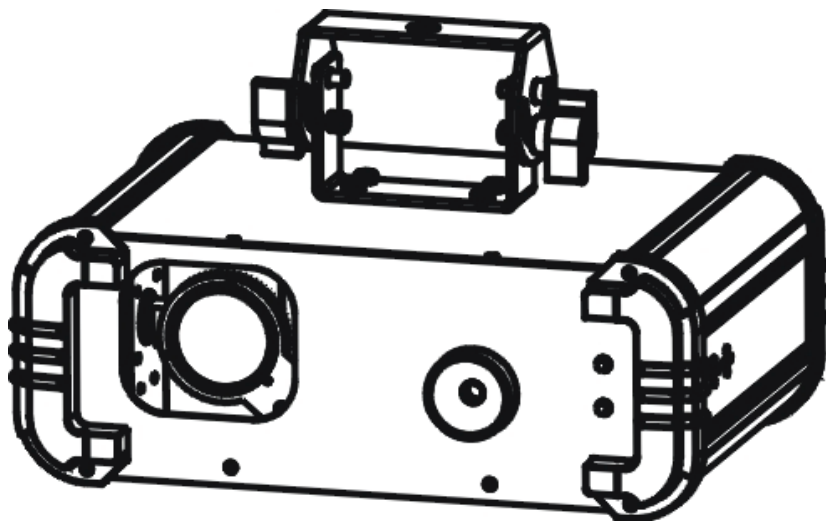# DIVERSA RAY
American DJ

User Instructions

Unpacking: Thank you for purchasing[...] can DJ®. Every Diversa Ray has been tho[...] shipped in perfect operating condition. [...] carton for damage that may have occ[...] carton appears to be damaged, carefull[...] damage and be sure all equipment nece[...] arrived intact. In the event damage has b[...] ing, please contact our toll free custome[...] instructions. Please do not return this un[...] tacting customer support first.

Introduction: The American DJ® Divers[...] effects in one unit. It produces a "Galax[...] red and green beams, a "Liquid Sky" ef[...] effect. The Diversa Ray has three ope[...] show mode, or controlled via DMX. The [...] stand alone fixture or in a Master/Slave [...] *use fog or special effects smoke to enha[...]*

Customer Support: American DJ® p[...] support line, to provide set up help and t[...] you encounter problems during your se[...] may also visit us on the web at www.a[...] ments or suggestions. *For service relate[...] can DJ®.* Service Hours are Monday thr[...] p.m. Pacific Standard Time.

Voice:	(800) 322-6337
Fax:	(323) 582-2941
E-mail:	support@american[...]

To purchase parts online visit http://p[...]

Warning! To prevent or reduce the risk [...] not expose this unit to rain or moisture.

Caution! There are no user serviceable[...] attempt any repairs yourself, doing so wil[...] ranty. In the unlikely event your unit may [...] American DJ customer support.

PLEASE recycle the shipping carton whe[...]

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.

CAUTION IMPORTANT! When installing this projector, make sure that it is mounted in a manner that prevents the audience from looking directly into the beam, and the beam from striking the audience.

- 30mW Green Laser Diode & 80W Red Laser Diode
- 9 DMX Channels
- 3 Operating Modes - Sound Active, Show Mode & DMX Control
- Fan Cooled
- Digital Display for Address and Function Setting
- UC3 Controller (Not Included)

The Diversa Ray carries a 90 day 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.

DANGE

VISIBLE LASER RA
-AVOID DIRECT EY

LASER DIODE
WAVELENGTH : 63
Max Output : <4.9m
Class IIIa Laser Pr

Safety Issues: This unit may "pop" the br
load of 2 amps is reached.

- To reduce the risk of electrical shock o
  rain or moisture.
- Do not spill water or other liquids into
- Do not attempt to remove or break off
  electrical cord. This prong is used to re
  shock and fire in case of an internal sh
  ate this unit if the power cord has been
- Disconnect from main power before ma
- Do not remove the cover under any co
  serviceable parts inside.
- Always be sure to mount this unit in an
  ventilation. Allow about 6" (15cm) betw
- Do not attempt to operate this unit, if it
- This unit is intended for indoor use onl
  doors voids all warranties.
- During long periods of non-use, discon
- Always mount this unit in safe and stab
- Power cords should be routed so they
  on, pinched by items placed upon or a
- Cleaning -The fixture should be cleane
  the manufacturer. See page 21 for clea
- Heat -The appliance should be situated
  such as radiators, heat registers, stove
  (including amplifiers) that produce heat
- The fixture should be serviced by quali
  A.   The power-supply cord or the plu
  B.   Objects have fallen, or liquid has
  C.   The unit has been exposed to rai
  D.   The unit does not appear to oper
       marked change in performance.

NON-INTERLOCKED HOUSING WARNING

The Diversa Ray contains high power laser devices internally. *Do not* open the laser housing, due to the potential exposure to unsafe levels of laser radiation. The laser power levels, if the unit is opened, can cause instant blindness, skin burns and fires.

STOP AND READ ALL LASER SAFETY DATA
OPERATION INSTRUCTIONS AND LASER SAFETY

The light source emitted from this product can potentially cause eye injury if not set up and used properly. The light source emitted from a laser is very different from any other light sources with which you may be aware of. Laser light is thousands of times more concentrated than any light from any other kind of light source. This concentration of light can cause instant eye injuries, primarily by burning the retina (the back of your eyeball contatining cells that are sensitive to light). Even if you cannot feel "heat" from a laser beam, it can still potentially injure or blind you or your audience. Even very small amounts of laser beam light are potentially hazardous even at long distances. Laser eye injuries can be sustained faster than you can blink.

Do not think that because this laser splits the laser beam into hundreds of beams and that the laser beam is scanned out in high speed, that an individual laser beam is safe for eye exposure. This laser uses dozens of milliwatts of laser power (Class 3B levels internally) before it splits into multiple beams (Class 3R levels). Many of the individual beams are potentially hazardous to the eyes.

Do not that because the laser light is moving, it is safe. This is not true. Nor, do the laser beams always move. Since eye injuries can occur instantly, it is critical to prevent even the smallest possibility of any direct eye exposure. In the laser safety regulation, it is not legal to aim Class 3R lasers in areas which people can get exposed. This is true even if it is aimed below people's faces, such as on a dance floor.

Do not operate the laser without first reading and understanding all safety and technical data in this manual.

Always set up and install all laser effects so that all laser light is at least 3 meters (9.8 feet) above the floor on which people can stand.

After setting up, and before public use, t function. Do not use if any defect is dete emits only one or two laser beams rather this could indicate damage to the diffrac allow emission of higher laser levels abo

Do not point lasers at people or animals aperture or laser beams.

Do not point lasers in areas in which pe exposed, such as uncontrolled balconies

Do not point lasers at highly reflective su mirrors and shiny metal. Even laser refle

Never point a laser at aircraft, this is a fe

Never point un-terminated laser beams i

Do not expose the output optic (aperture

Do not use laser if the laser appears to b beams.

Do not use the laser if the housing is dar or if the optics appear damaged in any w

Never open the laser housing. The high the protective housing can start fires, bu eye injury.

Never leave this device running unattend

The operation of a class 3R laser show is is controlled by a skilled and well- trained data included in this manual.

The legal requirements for using laser en from country to country. The user is resp ments at the location/country of use.

Always use proper lighting safety cables effects overhead.

20mm

40mm

LASER RADIATION
IS EMITTED FROM
THIS APERTURE

AVOID EXPOSURE

30 mm

41 mm

DANGER

LASER RADIATION AVOID
DIRECT EYE EXPOSURE

Maximum output <5 mW
Wavelength: 655-532nm
Class IIIa laser product

This device complies with 21 CFR chapter I,
Subchapter J, or CFR 1040.10 and 1040.11

40mm

17mm

American DJ Supply Inc.
6122 S.Eastern Ave.
Los Angeles, CA 90040 USA

Manufactured:

Specification stickers

40mm

12mm

CAUTION - CLASS 3A
LASER RADIATION WHEN OPEN
AVOID DIRECT EYE EXPOSURE

Power Supply: The American DJ® Dive
voltage switch, which will auto sense th
into the power source. With this switch th
the correct power voltage, this unit can b

DMX-512: *DMX is short for Digital Mult
tocol used by most lighting and controll
communication between intelligent fixtu
controller sends DMX data instructions
ture. DMX data is sent as serial data that
via the DATA "IN" and DATA "OUT" XLR
fixtures (most controllers only have a DAT

DMX Linking: DMX is a language allow
different manufactures to be linked toge
gle controller, as long as all fixtures and
pliant. *To ensure proper DMX data trans
DMX fixtures try to use the shortest ca
in which fixtures are connected in a DM
DMX addressing. For example; a fixture a
may be placed anywhere in a DMX line,
or anywhere in the middle. Therefore, the
controller could be the last fixture in the
signed a DMX address of 1, the DMX co
assigned to address 1 to that unit, no ma
DMX chain.*

**Data Cable (DMX Cable) Requirements
Operation):** The Diversa Ray can be con
The Diversa Ray is a nine channel DMX
electronically using the controls on the re
and your DMX controller require a appro
512 110 Ohm Data cable for data input
output (Figure 1). We recommend Accu-C
cables. If you are making your own cable
to use standard 110-120 Ohm shielded c
cable may be purchased at almost all pro
sound and lighting stores). Your cables s
made with a male and female XLR con
either end of the cable. Also remember

cable must be daisy chained and cannot be split.

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.
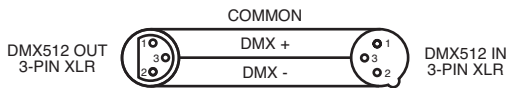
COMMON

DMX512 OUT
3-PIN XLR   DMX +   DMX512 IN
                   DMX -   3-PIN XLR

Figure 2

XLR Male Socket   XLR Female Socket

1 Ground   2 Cold   2 Cold   1 Ground

3 Hot   3 Hot

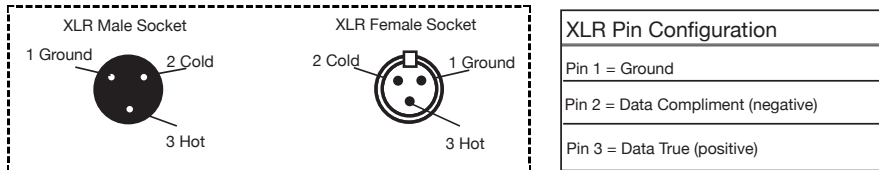| XLR Pin Configuration |
| --- |
| Pin 1 = Ground |
| Pin 2 = Data Compliment (negative) |
| Pin 3 = Data True (positive) |

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 110-120 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.
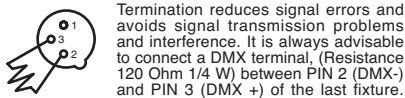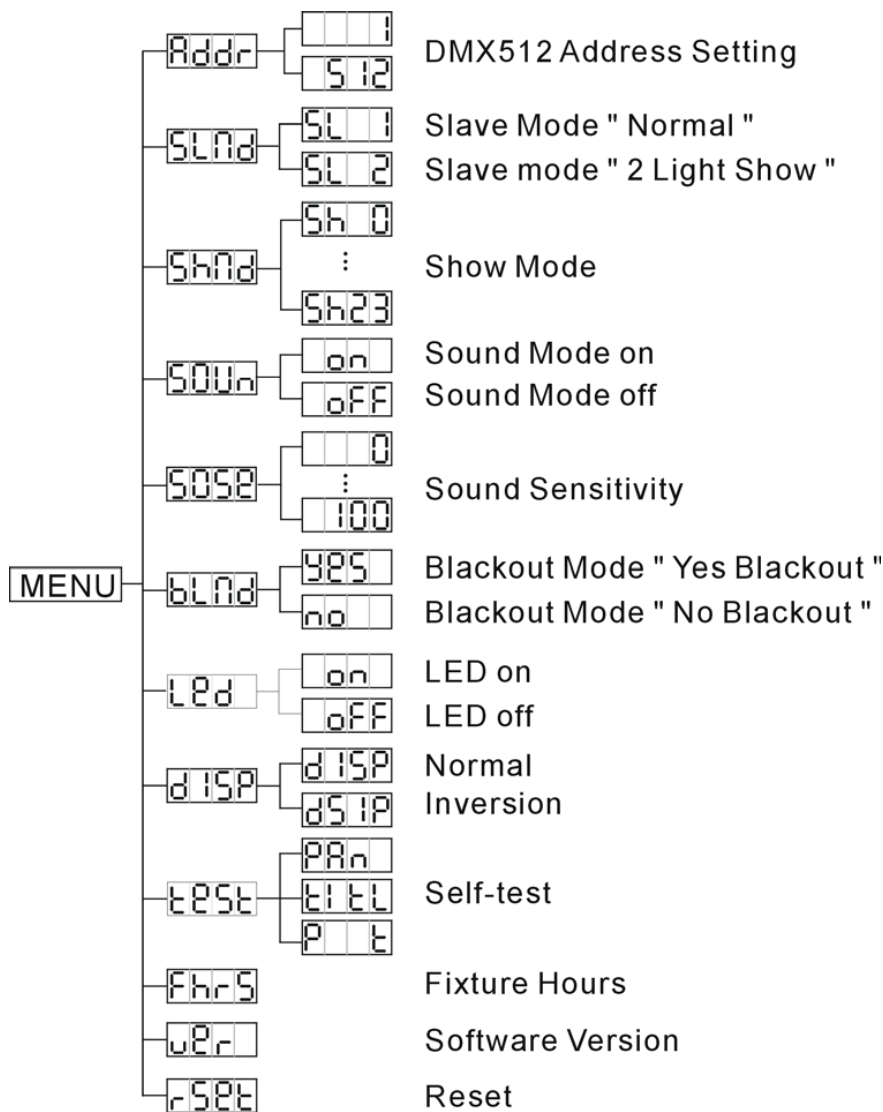
Termination reduces signal errors and avoids signal transmission problems and interference. It is always advisable to connect a DMX terminal, (Resistance 120 Ohm 1/4 W) between PIN 2 (DMX-) and PIN 3 (DMX +) of the last fixture.   Figure 4

5-Pin XLR DMX Connectors. Some r
512 data cables for DATA transmission
fixtures may be implemented in a 3-pin D
dard 5-pin data cables in to a 3-pin line a
these adaptors are readily available at m
below details a proper cable conversion.

3-Pin XLR to 5-Pin XLR (	
Conductor	3-Pin XLR Female (
Ground/Shield	Pin 1
Data Compliment (- signal)	Pin 2
Data True (+ signal)	Pin 3
Not Used	
Not Used	

			DMX512 Address Setting
Addr		512	
SLNd	SL 1		Slave Mode " Normal "
	SL 2		Slave mode " 2 Light Show "
	Sh 0		
ShNd	⋮		Show Mode
	Sh23		
SOUn	on		Sound Mode on
	oFF		Sound Mode off
	0		
SOSE	⋮		Sound Sensitivity
	100		
bLNd	YES		Blackout Mode " Yes Blackout "
	no		Blackout Mode " No Blackout "
LEd	on		LED on
	oFF		LED off
dISP	dISP		Normal
	dSIP		Inversion
tESt	PRn		
	tItL		Self-test
	P t		
FhrS			Fixture Hours
uEr			Software Version
rSEt			Reset

MENU

ADDR – **DMX Address Setting**.

1. Tap the either the MENU, UP, or DO[...]
is displayed, press ENTER.

2. The current address will now be dis[...]
Press the UP or DOWN buttons to fin[...]
Press ENTER to set your desired DM[...]

SLND – **This will let you set unit a[...] master/slave configuration.**

1. Tap the MENU button until "SLND" [...]
ENTER. Either "SL 1" or "SL 2" will be [...]

2. Tap the UP or DOWN buttons until [...]
displayed, press ENTER to confim.

SHND: SH 0 – SH 23 - **Show [...] can run with or without sound activ[...]**

1. Press the MENU button until "SHND" is [...]

2. "SH X" will now be displayed, "X" rep[...]
0-23. Shows 1-23 are preprogrammed sh[...]
show mode. Press the UP or DOWN butt[...]

3. Press ENTER to confirm, and then pres[...]
for at least 3 seconds to activate. To ex[...]
ments press the MENU button. When sho[...]
change the show without have to go thro[...]

SOUN – **Sound Active mode.**

1. Tap the MENU button until "SOUN" [...]
ENTER.

2. The display will show either "ON" or [...]
DOWN buttons to select "ON" to activ[...]

"OFF" to deactivate sound active mode.

3. Press ENTER to confirm.

SOSE – **Sound sensitivity control.**

1. Press the MENU button until "SOSE" is displayed, press ENTER.

2. The display will show a number between 0-100. Press the UP or DOWN buttons to adjust the sound sensitivity. 0 being the least sensitive and 100 the most sensitive.

3. Press the ENTER button to confirm. To exit without making any adjustments press the MENU button.

BLND – **Blackout or Stand by mode.**

1. Tap the MENU button until "BLND" is displayed, press ENTER. Either Yes or No will be displayed.

2. To activate Blackout tap the UP or DOWN buttons until "Yes" is displayed, press ENTER to confim. The fixture will now be in Blackout mode. To deactivate Blackout mode, select "No" and press Enter.

LED – **With this function you can have the LED display turn off after 10 seconds.**

1. Tap the MENU button until "LED" is displayed, press ENTER.

2. The display will show either "ON" or "OFF". Press the UP or DOWN buttons to select "ON" to keep the LED display on at all times, or "OFF" to switch to have the LED display switch off after 10 seconds. To make the display reappear, press and hold the MENU button for at least 5 secs.

3. Press ENTER to confirm.

DISP - **This function will reverse the display 180º.**

1. Tap the MENU button until "DISP" i

2. Press ENTER to "flip" the display. again. Press ENTER to confirm.

TEST - **This function will allow you functions.**

1. Press the MENU button until "TEST" is

2. Either "PAN", "TILT" or "P T" will be displ buttons to scroll to the function you wou ENTER. The function will now run a self t to exit.

FHRS - **With this function you can of the fixture.**

1. Tap the MENU button until "FHRS" ENTER.

2. The display shows the running tim to exit.

VER - **With this function you can d ware of the unit.**

1. Tap the MENU button until "VER" is

2. The display will now display the ve MENU to exit.

RSET - **Use this function to reset t**

1. Tap the MENU button until "RSET" i

2. The fixture will now reset,

```
                    ┌──────┐ ┌─── 0
                    │ PAn 1│─┤  :
                    └──────┘ └─── 255
                    ┌──────┐ ┌─── 0
┌──────┐            │ tILt │─┤  :
│ MENU │────────────└──────┘ └─── 255
└──────┘            ┌──────┐ ┌─── 0
                    │ PAn2 │─┤  :
                    └──────┘ └─── 200
```
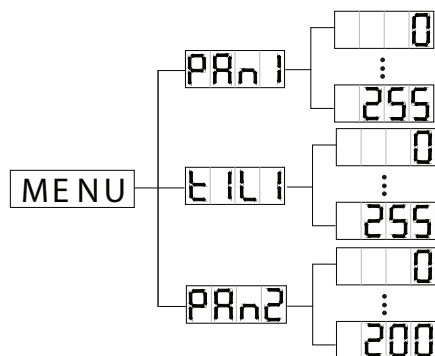
To enter the Pan/Tilt Submenu, press the ENTER button for at least 5 seconds. This submenu allows you to adjust the motor so that the laser centered and is projected perfectly.

PAN 1 - In this submenu you can fine adjust the Pan.

1. Press the ENTER button for at least 5 seconds.

2. Use the UP and DOWN buttons to make your adjustments, and then press ENTER to confirm. Press the MENU button to exit without making changes.

TIL 1 - In this submenu you can fine adjust the Tilt.

1. Press the ENTER button for at least 5 seconds.

2. Use the UP and DOWN buttons to make your adjustments, and then press ENTER to confirm. Press the MENU button to exit without making changes.

PAN 2 - In this submenu you can fine adjust the Pan.

1. Press the ENTER button for at least 5 seconds.

2. Use the UP and DOWN buttons to make your adjustments, and then press ENTER to confirm. Press the MENU button to exit without making changes.

CAUTION IMPORTANT! When installin that it is mounted in a manner that p looking directly into the beam, and t audience.

Operating Modes: The Diversa Ray *ferent modes. In each mode you car* *alone fixture or in a master/slave co* *tion will detail the differences in the o*

• *Sound Active mode -*
The fixture will react to sound, chasing th
• *Show mode -*
The fixture will run one of four shows tha
• *DMX control mode -*
This function will allow you to control with a standard DMX-512 controller Designer.™

Master-Slave Operation This function units together and operate without a con activated. In Master-Slave operation one unit and the others will react to the contr can act as a Master or as a Slave.
1. Using approved DMX data cables, da er via the XLR connector on the rear Male XLR connector is the input and is the output. The first unit in the chai XLR connector only - The last unit in XLR connector only. For longer cable tor at the last fixture.
2. On the Master unit find your desired pressing the ENTER button.
3. On the slave units tap the MENU bu played, and Press ENTER. Choose ei press ENTER. Please see page 12
4. The slave units will now follow the

Universal DMX Control: This function universal DMX-512 controller to contr

dimmer and strobe. A DMX controller allows you to create unique programs tailored to your individual needs.

1. The Diversa Ray is a nine channel DMX fixture. See pages 18-19 for detailed description of the DMX values and traits.
2. To control your fixture in DMX mode, follow the set-up procedures on pages 8-10 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. Follow the instruction on page 12 to set the DMX address.
6. For longer cable runs (more than a 100 feet) use a terminator on the last fixture.
7. For help operating in DMX mode consult the manual included with your DMX controller.

Sound Active Mode: This mode allows either single unit or several units linked together, to run to the beat of the music.

1. Press the MENU button until "SOUN" is displayed, and press ENTER. Press the UP or DOWN buttons so that "ON" is displayed and press ENTER. The unit is now sound active.
See page 13 for sound sensitivity adjustment.
2. The optional *UC3 Controller* (not included) may be used to control different functions including blackout.

Show Mode: In this mode you can choose 1 of 23 shows to run.

1. Tap the MENU button until "SHND" is displayed, and press ENTER.
2. Tap the UP or DOWN buttons until you find your desired show, and press ENTER then press and hold MENU for 3 seconds to confirm. See page 12 for more info.
3. The optional *UC3 Controller* (not included) may be used to control different functions including blackout.

Diversa Ray			UC3 Control

Stand By	Blackout the unit		
Function	Dot on line or discontinuous line effect	Show 1~23	Pattern Selection(22 patterns)
Mode	Sound (LED OFF)	Sound (LED ON)	Position/Latch (LED Blinking)

Diversa Ray		
Channel	**Value**	
1		
	0 - 7	
	8 - 255	
2		
	0 - 7	
	8 - 15	
	16 - 131	LAS
	132 - 247	DOT
	248 - 255	
3		
	0 - 11	
	12 - 23	
	24 - 34	
	35 - 46	
	47 - 58	
	59 - 69	
	70 - 81	
	82 - 93	
	94 - 104	
	105 - 116	
	117 - 127	
	128 - 139	
	140 - 151	
	152 - 162	
	163 - 174	
	175 - 186	
	187 - 197	
	198 - 209	
	210 - 221	
	222 - 232	
	233 - 244	
	245 - 255	

Channel	Value	Function
4		GREEN LASER MOVEMENT
	0 - 9	NO MOVEMENT
	10 - 120	LEFT TO RIGHT FAST - SLOW
	121 - 134	NO MOVEMENT
	135 - 245	UP & DOWN SLOW - FAST
	246 - 255	NO MOVEMENT
5		RED LASER ROTATION
	0 - 9	NO ROTATION
	10 - 120	COUNTER CLOCKWISE ROTATION FAST - SLOW
	121 - 134	NO ROTATION
	135 - 245	CLOCKWISE ROTATION SLOW - FAST
	246 - 255	NO ROTATION
6		RED LASER ZOOM
	0 - 127	ZOOMING MAX - MIN.
	128 - 255	ZOOMING MIN. - MAX SLOW - FAST
7		PRISM
	0 - 127	PRISM OFF
	128 - 255	PRISM ON
8		PRISM ROTATION
	0 - 9	NO ROTATION
	10 - 119	COUNTER CLOCKWISE ROTATION SLOW - FAST
	120 - 137	NO ROTATION
	138 - 245	CLOCKWISE ROTATION FAST - SLOW
	246 - 255	NO ROTATION
9		RASTER
	0 - 127	RASTER OFF
	128 - 255	RASTER ON

Diversa Ray

This emergency feature lets you instantly
vate the emergency feature you must firs
keyhole and turn it to the "On" position.
off box and knob to jack located undern
If an emergency situation arises and the
push the knob.

Push
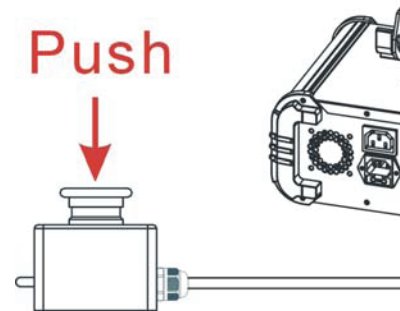
To return to normal working order, rotate
the key to the "Off" position and then ba

Locate and remove the unit's power cord. Once the cord has been removed located the fuse holder located inside the power socket. Insert a flat-head screw driver into the power socket and gently pry out the fuse holder. Remove the bad fuse and replace with a new one. The fuse holder has a built-in socket for a spare fuse be sure not to confuse the spare fuse with active fuse.

Fixture Cleaning: Due to fog residue, smoke, and dust cleaning the internal and external lenses should be carried out periodically to optimize light output.

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). In heavy use we recommend cleaning on a monthly basis. Periodic cleaning will ensure longevity, and crisp beam output.

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

No light output from the unit;

1. Be sure the external fuse has not blown. The fuse is located on the rear panel of the unit.
2. 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.

MANUFACTURER'S LIMITED WARRANTY

A.   American DJ, Inc. hereby warrants, to the origin Audio products to be free of manufacturing defects in ma period from the date of purchase (see specific warranty p valid only if the product is purchased within the United St and territories. It is the owner's responsibility to establish ceptable evidence, at the time service is sought.

B.   For warranty service you must obtain a Return sending back the product. Contact American DJ, Inc. Ser the product only to the American DJ, Inc. factory. All ship requested repairs or service (including parts replacement) American DJ, Inc. will pay return shipping charges only to States. If the entire instrument is sent, it must be shipped should be shipped with the product. If any accessories ar Inc. shall have no liability whatsoever for loss of or damag safe return thereof.

C.   This warranty is void if the serial number has be modified in any manner which American DJ, Inc. conclude of the product; if the product has been repaired or service Inc. factory unless prior written authorization was issued t product is damaged because not properly maintained as

D.   This is not a service contract, and this warranty or periodic check-up. During the period specified above, tive parts at its expense with new or refurbished parts, an service and repair labor by reason of defects in material o of American DJ, Inc. under this warranty shall be limited t ment thereof, including parts, at the sole discretion of Am warranty were manufactured after January 1, 1990, and b

E.   American DJ, Inc. reserves the right to make ch upon its products without any obligation to include these manufactured. No warranty, whether expressed or implied accessory supplied with products described above. Exce law, all implied warranties made by American DJ, Inc. in c warranties of merchantability or fitness, are limited in dura above. And no warranties, whether expressed or implied, or fitness, shall apply to this product after said period has sole remedy shall be such repair or replacement as is exp circumstances shall American DJ, Inc. be liable for any lo arising out of the use of, or inability to use, this product.

This warranty is the only written warranty applicable to A Products and supersedes all prior warranties and written conditions heretofore published.

MANUFACTURER'S LIMITED WARRANTY PERIODS:
• All American Audio Products = 1-year (365 day) Limited fiers)
• All American Audio V-Plus Series Amplifiers = 3-year (10
• American DJ Lighting and American DJ Branded Produc (Such as: Special Effect Lighting, Intelligent Lighting, UV l Machines, Mirror Balls, Par Cans, Trussing, Lighting Stan and Star Tec Series)
• American DJ Laser Products and Star Tec Products = 9
• American DJ L.E.D. Products = 3-year (1095 day) Limite have a 1-year (365 day Limited Warranty)

Model: Diversa Ray

Voltage:	100V ~ 240V 50~60Hz
Lasers:	30mW Green Diode /80mW Red Diode
Power Consumption:	32W
Dimensions:	12.5"(L) x 8.5"(W) x 7.5"(H)
	316mm x 213mm x 193mm
Colors:	Green & Red
Weight:	9 Lbs. / 4 kgs.
Fuse:	1 Amp
Duty Cycle:	None
DMX:	9 DMX Channels
Sound Active:	Yes
Working Position:	Any Safe, Secure Position
Warranty:	90 Days

Auto Sensing Voltage: *This fixture contains a automatic voltage switch, which will auto sense the voltage when it is plugged into the power source.*

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
6122 S. Eastern Ave. Los An
Tel: 323-582-2650
Web: www.americandj.com / E-mail:

Follow Us On:

facebook.com/americandj
twitter.com/americandj
youtube.com/adjlighting

service@adjgroup.eu
Tel: +31 45 546 85 00 / F

http://access
h.ru/cat/laze
r/