

American DJ®

MB DMX

2-CHANNEL DMX MIRRORBALL MOTOR



User Instructions

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MB DMX™

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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.

Unpacking: Thank you for purchasing the MB DMX™ by American DJ®. Every MB 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 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 MB DMX™ is a unique intelligent mirror ball motor that may be operated in three modes; DMX-512, Stand-Alone, or Master/Slave. The MB DMX™ allows you to control the operation of a mirror ball motor as well as the lamps via DMX operation. You may also link several MB DMX™ motors together to obtain universal speed and rotation. An optional MINI/C black out controller may be purchased separately.

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

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 your nearest American DJ® dealer.

Safety Issues:

- 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
- 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 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 cords should be routed so they are not likely to be walked on, pinched by items placed upon or against them.
- 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 fixture does not appear to operate normally or exhibits a marked change in performance.

MB DMX™

Features

- *Micro-Stepping Motors for Smooth Rotation*
- *Uses Two DMX Channels*
- *DMX-512 Protocol Compatible*
- *Variable Head Rotation Speed*
- *Built-In Rigging Point*
- *Stand-Alone or Master/Slave Operation*
- *Linkable*
- *Two Built-In DMX Controlled AC Power Sockets*
- *Heavy Duty Mirror Ball Motor*
- *Rated for 20" Mirror Balls*
- *Optional Mini/C Blackout Controller*

MB DMX™

Product Registration

The MB 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. The R.A. number must be clearly written on the outside of the return package. A brief description of the problem as well as the R.A. number must also be written down on a piece of paper and included in the shipping container. If the unit is under warranty, you must provide a copy of your proof of purchase invoice. You may obtain a R.A. number by contacting our customer support team on our toll free customer support number at (800) 322-6337. All packages returned to service not displaying a R.A. number on the outside of the package will be returned to the shipper.

MB DMX™

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® MB DMX.™ 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 and Master/Slave Operation): The MB DMX™ can be controlled via DMX-512 protocol. The American DJ® MB DMX™ is a two channel DMX unit. The DMX address is set on the side panel using the dipswitches. 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.

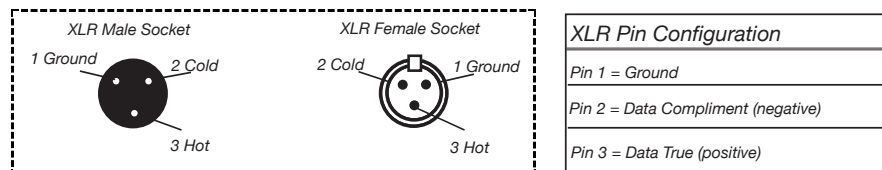


Figure 2

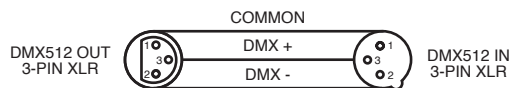


Figure 3

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.

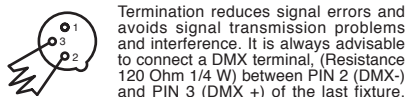


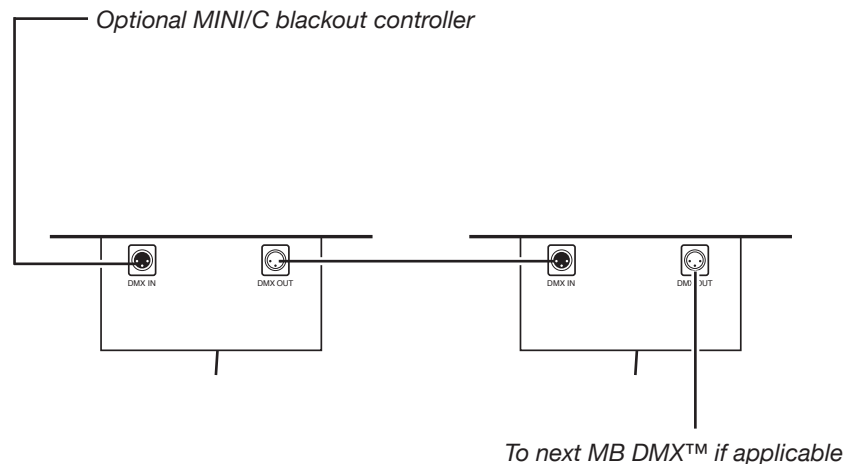
Figure 4

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

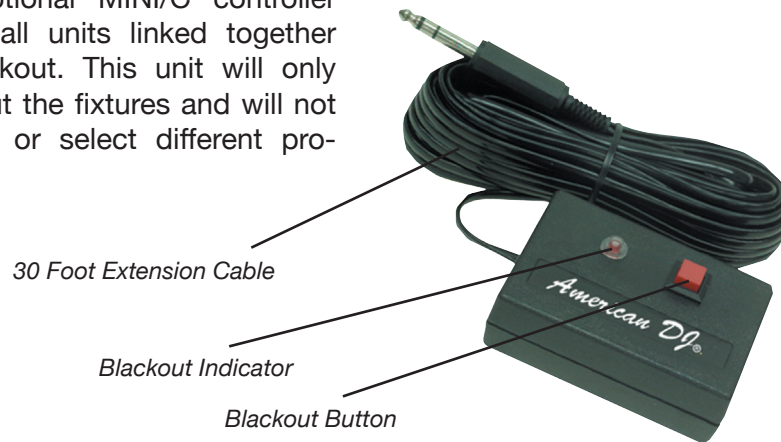
Master/Slave Linking:

For a more dramatic effect, link several MB DMX™ together. Your fixture comes with built-in programs. These programs are designed to work with up to 4 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 as described on pages 6 and 7.



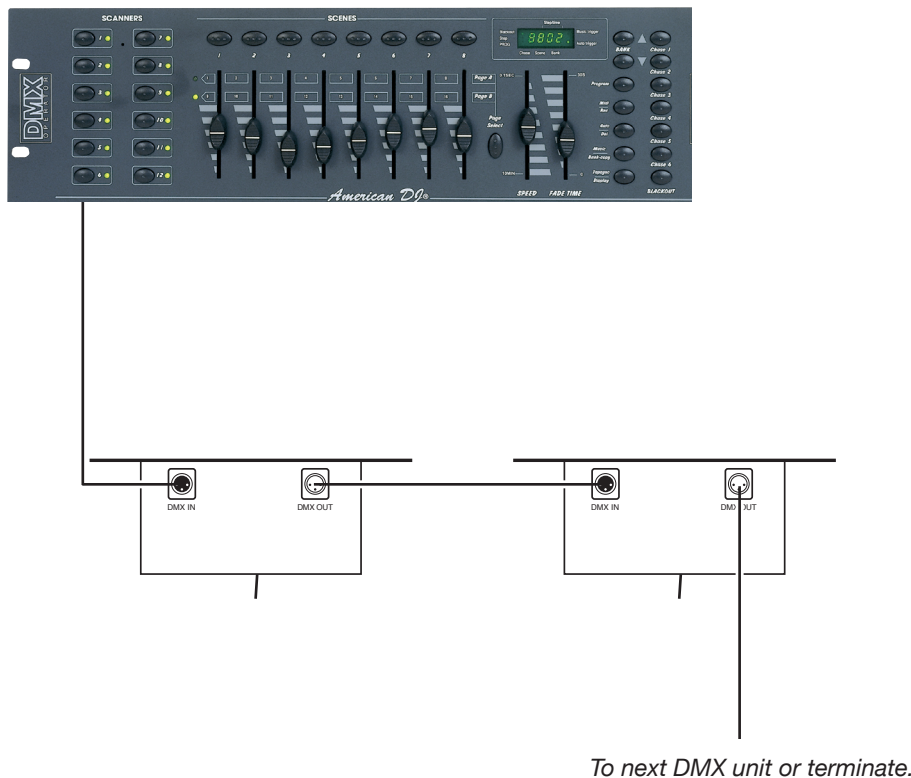
Optional MINI/C:

The optional MINI/C controller allows all units linked together to blackout. This unit will only blackout the fixtures and will not change or select different programs.



DMX Linking:

DMX function allows independent control of each fixture. Use any universal DMX controller to access the different traits associated with the MB DMX. A reference of different DMX traits is printed on page 21 of this manual. Link the units together using standard DMX cable as described on pages 5 and 6.



Operating Modes: The MB DMX™ may be operated in three different modes. Always be sure to disconnect the power supply after changing the operating mode, this allows the unit to reset to the new operating mode. Failure to disconnect the power supply after changing the operating mode may cause the unit to function improperly.

- **Stand alone mode** - The unit will rotate to the pre-defined speed set with the dip switches. You can also use the optional MINI/C remote to control a blackout function.
- **Master/Slave mode** - You can daisy chain up to 16 units together to get synchronized motor rotation. The motor will rotate to a preset speed. You can also use the optional MINI/C remote to control a blackout function.
- **DMX control mode** - This function will allow you to control each unit's individual traits with a standard DMX 512 controller such as the American DJ® and LSC® DMX Operator™ or Show Designer.™

Stand-Alone Operation: This function allows a single unit to operate to any of the presets using the dipswitches. Only use this function when running a single unit, or when running several units as individuals. Please note this function does not allow individual control of the DMX traits.

1. To activate the Stand-Alone mode, locate the dipswitches on the side of the unit and flip dipswitch 10 to the "on" position.
2. Follow the dipswitch chart on page 14 to select a preset speed and to control mirror ball rotation direction.
3. Attach the mirror ball to the motor and connect main power.
4. The optional MINI/C Blackout Controller may be used in this mode to control blackout.

Master/Slave Operation: This function will allow you to link up to 16 units together without the use of an external controller. In Master/Slave operation one unit will act as the controlling unit and the others will react to the controlling units presets. Any unit can act as a Master or as a Slave. Please note this function does not allow individual control of the DMX traits and will only run to the units built-in programs.

1. Using standard XLR microphone cables, as described on pages six and seven, daisy chain your units together via the XLR connec-

tors 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. Select a MB DMX to be the “master” unit. Locate the dipswitches on the side of the unit and flip dipswitch 10 to the “on” position.
3. Follow the chart on page 14 to select a desired rotation speed and direction. Be sure to note that this selection will be universal throughout all motors in the chain.
4. For all other motors in the chain (slaves) located the dipswitches on the side of the units and be sure dipswitch 10 is in the “off” position.
5. Connect main power to all the motors and they will immediately begin to rotate to the presets of the “master” unit.
6. The optional MINI/C Blackout Controller may be used with this function for to stop motor rotation.

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 rotation speed, rotation direction, and the built-in power sockets (usually for lamps). Operating through a DMX controller allows you the freedom to create unique and customized programs tailored to your specific individual needs.

1. The MB DMX™ uses two DMX channels. Channel one controls power sockets located on the side of the unit. Channel two control the motor’s rotation speed and direction.
2. To control your motor in DMX mode, follow the set-up procedures on pages 7 - 9 as well as the set-up specifications that are included with your DMX controller.
3. Use the DMX controller’s faders to control the various DMX fixture traits. A list of the traits is located on page 13.
4. This will allow you to create your own programs.
5. When using a DMX controller and setting up for DMX operation follow the DMX addressing procedure in your controller’s manual. All fixtures must follow a specific DMX addressing protocol for proper operation in DMX mode.
6. For help operating in DMX operation consult the manual included

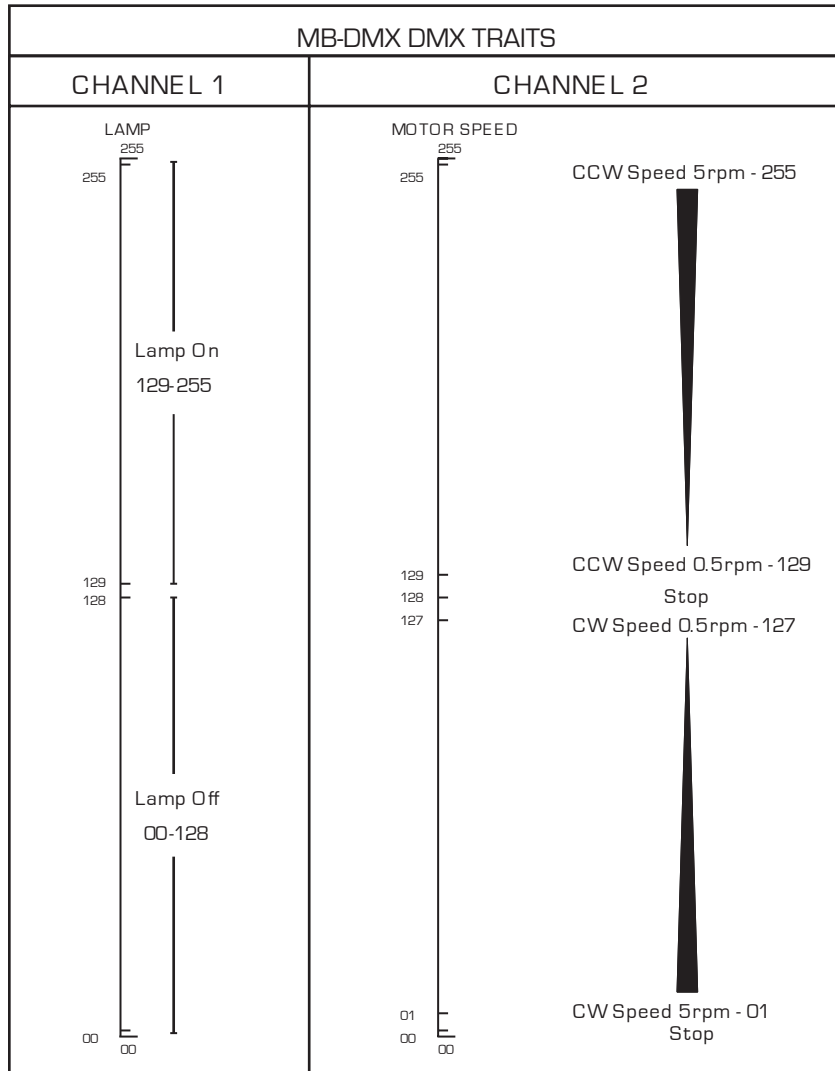
with your DMX controller.

7. For longer cable runs (more than a 100 feet) use a terminator on the last fixture.

Mounting: The MB DMX™ ships with a built-in rigging point and two large holes in the base of the unit (that are to be used for safety cables). The rigging point is located on the bottom of the unit. This rigging point is secured to the fixture by two large Phillips screws. When the rigging point is not to be used and when the fixture is shipped from the manufacture, the point is shipped inverted (inside the bottom of the unit). When the fixture is to be hung by truss or other means, please use the rigging point and secure the fixture with safety cables. Always be sure to firmly secure the rigging point to the unit. The MB DMX™ is to mounted in bottom-up position to a ceiling or may hung from truss using a C-Clamp rated at 50 pounds or greater.

This unit is equipped with a built-in safety breaker. This breaker is designed to close the power circuit in the event of an internal short or power surge. This will reduce the risk of electrical shock or fire and protect the circuitry. To reset the breaker, push the breaker button in until you hear it “pop” back in to place. If the breaker continues to pop, stop using the unit and contact our customer support team, the unit may need to be returned for service.

The chart below details the DMX traits in depth. The individual trait can only be accessed by using an universal DMX controller. Note: "Lamp" in channel 1 refers to the two power sockets located on the side of the motor (these sockets are intended to be used with lamps to light up the mirror ball).



The charts below details the Master/Slave setting for Master/Slave configuration. Use this configuration when you will be using two or more fixtures in a Master/Slave configuration. Note: The "Master" settings should only be used once at the first motor, using the "master" setting more than once in the chain may result in erratic operation.

Dipswitch Function Settings

- Dipswitches 1 ~ 8 Used to change the rotation speed during Stand-Alone or Master/Slave mode

Master Motor Speed List

Speed \ Switch	DIP1	DIP2	DIP3	DIP4	DIP5	DIP6	DIP7	DIP8
SPEED1 (0.5 rpm)	ON	-	-	-	-	-	-	-
SPEED2 (1 rpm)	OFF	ON	-	-	-	-	-	-
SPEED3 (1.5 rpm)	OFF	OFF	ON	-	-	-	-	-
SPEED4 (2 rpm)	OFF	OFF	OFF	ON	-	-	-	-
SPEED5 (2.5 rpm)	OFF	OFF	OFF	OFF	ON	-	-	-
SPEED6 (3 rpm)	OFF	OFF	OFF	OFF	OFF	ON	-	-
SPEED7 (4 rpm)	OFF	OFF	OFF	OFF	OFF	OFF	ON	-
SPEED8 (5rpm)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON

" - " = Dip Switch Off

- Dipswitch 9 Control Rotation Direction;
On = CW Rotation / Off = CCW Rotation
- Dipswitch 10 Controls Master/Slave Operation;
On = Master / Off = Slave
Note: Dipswitch 10 must be in the off position for DMX operation
- The **optional** MINI/C may be used during Master/Slave operation to stop motor rotation and to blackout the electrical sockets

ONE YEAR (365 DAYS) 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.

Model: MB DMX™

Voltage*:	120v~60Hz or 220v~50/60Hz
Dimensions:	12.5"(H) x 11.25"(W) x 8.5"(D)
Weight:	4 Lbs.
Breaker:	3 Amp
Duty Cycle:	None
DMX:	2 Channels
Working Position:	Any Safe, Secure Position
Warranty:	1 Year (365 days)

* Voltage is preset at the factory and is not user selectable.

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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