User Instructions

MB DMX II General Information

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DOCUMENT VERSION
Please check www.adj.com for the latest revision/update of this guide.

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<th>Notes</th>
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<tr>
<td>12/09/19</td>
<td>1</td>
<td>UC IR Control Added</td>
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<tr>
<td>MB DMX II</td>
<td>General Information</td>
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</tr>
<tr>
<td><strong>General Instructions:</strong> 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.</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>MB DMX II</th>
<th>Safety Precautions</th>
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<tbody>
<tr>
<td><strong>Safety Issues:</strong></td>
<td></td>
</tr>
<tr>
<td>• To reduce the risk of electrical shock or fire, do not expose this unit rain or moisture</td>
<td></td>
</tr>
<tr>
<td>• Do not spill water or other liquids into or on to your unit</td>
<td></td>
</tr>
<tr>
<td>• Do not attempt to operate this unit if the power cord has been frayed or broken</td>
<td></td>
</tr>
<tr>
<td>• 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</td>
<td></td>
</tr>
<tr>
<td>• Disconnect from main power before making any type of connection</td>
<td></td>
</tr>
<tr>
<td>• Do not remove the cover under any conditions. There are no user serviceable parts inside</td>
<td></td>
</tr>
<tr>
<td>• Never plug this unit in to a dimmer pack</td>
<td></td>
</tr>
<tr>
<td>• 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</td>
<td></td>
</tr>
<tr>
<td>• Do not attempt to operate this unit, if it becomes damaged</td>
<td></td>
</tr>
<tr>
<td>• This unit is intended for indoor use only, use of this product outdoors voids all warranties</td>
<td></td>
</tr>
<tr>
<td>• During long periods of non-use, disconnect the unit’s main power</td>
<td></td>
</tr>
<tr>
<td>• Always mount this unit in safe and stable matter</td>
<td></td>
</tr>
<tr>
<td>• Power cords should be routed so they are not likely to be walked on, pinched by items placed upon or against them.</td>
<td></td>
</tr>
<tr>
<td>• Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.</td>
<td></td>
</tr>
<tr>
<td>• 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.</td>
<td></td>
</tr>
</tbody>
</table>

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

**Customer Support:** ADJ Products, LLC 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.adj.com for any comments or suggestions. Service Hours are Monday through Friday 8:00 a.m. to 4:30 p.m. Pacific Standard Time.

- Voice: (800) 322-6337
- Fax: (323) 582-2941
- 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 ADJ dealer.
MB DMX II

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
- UC IR & Airstream Control (Sold Separately)

MB DMX II

Product Registration
The MB DMX II 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 II

Power Supply: Before plugging your unit in, be sure the source voltage in your area matches the required voltage for your ADJ MB DMX II. 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 your 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 II can be controlled via DMX-512 protocol. The ADJ MB DMX II 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
**MB DMX II™ Instruction Manual**

**DMX Set Up**

**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.

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**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.

![XLR Pin Configuration](image)

**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.

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**Operating Modes:** The MB DMX II 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 UC IR remote (sold separately) to control various functions.

- **Master/Slave mode** - You can daisy chain up to 16 units together to get synchronized motor rotation. You can also use the optional UC IR remote to control various functions.

- **DMX control mode** - This function will allow you to control each unit’s individual traits with a standard DMX 512 controller.

**Stand-Alone Mode:** This function allows a single unit to operate to any of the presets using the dip switches. 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 UC IR remote (sold separately) may also be used to control the motor. Please see page 10 for UC IR controls.

**Master/Slave Mode:** This function will allow you to link up to 16 units together without the use of an external controller. In a Master/Slave setup 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 connectors 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.

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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 II to be the “master” unit. Locate the dip-switches on the side of the unit and flip dipswitch 10 to the “on” position.

3. Follow the dipswitch chart on page 13 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 UC IR remote (sold separately) may also be used to control the motor. Please see page 10 for UC IR controls.

Universal DMX Control: This function allows you to use a universal DMX-512 controller to control rotation speed, rotation direction, and the built-in power sockets (usually for pinspots). 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 II 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 DMX traits and values is located on page 12.

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.

The UC IR (sold separately) infrared remote gives you control of various functions (See below). To control the fixture you must aim the remote at the front of the fixture and be no more than 30 feet away. To use the ADJ UC IR you must first connect the included IR receiver cable. Connect this cable to the mini input jack located on the side of the unit near the dipswitches.

The Airstream IR (sold separately) remote transmitter plugs into the headphone jack of your iOS phone or tablet. To control your IR fixture you must raise the volume to the maximum on your iOS phone or tablet and aim the transmitter at the fixture sensor and be no more than 15 feet away. After you have purchased the Airstream IR transmitters, the app is a free download from the app store for your iOS phone or tablet. The app comes with 3 pages of control depending on the fixture you are using. Please see below for IR functions including the corresponding app page.

Works with App page 1.

**STAND BY** - Pressing this button will turn the remote control option On and Off.

**FULL ON** - This will turn a connected light On and Off.

**FADE/GOBO** - This button is invalid.

“**DIMMER +**” and “**DIMMER -**” - “Dimmer +” will rotate the ball clockwise and “Dimmer -” will rotate the ball counter-clockwise.

**STROBE** - Press this button to activate strobing.

**COLOR** - This button is invalid.

**1-9** - Use buttons 1-8 to select your rotation speed. “1” being the fastest and “8” being the slowest. “9” will pause/stop the motor from rotating.

**SOUND ON & OFF & Show 0** - These buttons will control the strobe rate of a connected pinspot. Sound On is slowest strobe speed, Show 0 is medium speed, and Sound Off is the fastest speed.

- Sound On - 1Hz
- Show 0 - 3.5Hz
- Sound Off - 7Hz
MB DMX II

Mounting:
The MB DMX II 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 top 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 rigging point is shipped inverted (inside the top 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 II 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.

MB DMX II

Breaker Reset
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.

MB DMX II

MINI/C Control

Optional MINI/C (Not Included):
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.

Discontinued October 2016
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 power socket located on the front of the motor (this socket is intended to be used with lamps to light up the mirror ball).

<table>
<thead>
<tr>
<th>CHANNEL 1</th>
<th>CHANNEL 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LAMP</strong></td>
<td><strong>CCW Speed 5rpm-255</strong></td>
</tr>
<tr>
<td>230</td>
<td>230</td>
</tr>
<tr>
<td>235</td>
<td>235</td>
</tr>
<tr>
<td>Lamp On</td>
<td>CCW Speed 0.5rpm-129 Stop</td>
</tr>
<tr>
<td>128-235</td>
<td>128-235</td>
</tr>
<tr>
<td>129</td>
<td>129</td>
</tr>
<tr>
<td>127</td>
<td>127</td>
</tr>
<tr>
<td>Lamp Off</td>
<td>CW Speed 0.5rpm-127 Stop</td>
</tr>
<tr>
<td>60-127</td>
<td>90-235</td>
</tr>
<tr>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>01</td>
<td>01</td>
</tr>
<tr>
<td>06</td>
<td>06</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Switch</th>
<th>DIP1</th>
<th>DIP2</th>
<th>DIP3</th>
<th>DIP4</th>
<th>DIP5</th>
<th>DIP6</th>
<th>DIP7</th>
<th>DIP8</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEED1 (0.5rpm)</td>
<td>ON</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SPEED2 (1rpm)</td>
<td>OFF</td>
<td>ON</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SPEED3 (1.5rpm)</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SPEED4 (2rpm)</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SPEED5 (2.5rpm)</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SPEED6 (3rpm)</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SPEED7 (4rpm)</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>-</td>
</tr>
<tr>
<td>SPEED8 (5rpm)</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
</tr>
</tbody>
</table>

* - * = 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
MB DMX II

Warranty

MANUFACTURER’S LIMITED WARRANTY

A. ADJ Products, LLC hereby warrants, to the original purchaser, ADJ Products, LLC 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–please contact ADJ Products, LLC Service Department at 800-322-6337. Send the product only to the ADJ Products, LLC factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, ADJ Products, LLC 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, ADJ Products, LLC 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 ADJ Products, LLC concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the ADJ Products, LLC factory unless prior written authorization was issued to purchaser by ADJ Products, LLC; 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, ADJ Products, LLC 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 ADJ Products, LLC under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of ADJ Products, LLC. All products covered by this warranty were manufactured after August 15, 2012, and bear indentifying marks to that effect.

E. ADJ Products, LLC 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 ADJ Products, LLC 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 ADJ Products, LLC 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 ADJ Products, LLC Products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

MANUFACTURER’S LIMITED WARRANTY PERIODS:

- **Lighting Products = 1-year (365 days) Limited Warranty** (Such as: Special Effect Lighting, Intelligent Lighting, UV lighting, Strobes, Fog Machines, Bubble Machines, Mirror Balls, Par Cans, Trussing, Lighting Stands etc. excluding LEDs and lamps)
- **Laser Products = 90-Day Limited Warranty**
- **I.E.D. Products = 2-year (730 days) Limited Warranty** (excluding motors, PCB boards, and power supplies, which have a 1-year (365 day Limited Warranty) and batteries which have a 180 day limited warranty).

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