



User Instructions

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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 Orbitron™ by American DJ®. Every Orbitron™ 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 Orbitron™ is a unique intelligent fixture with a rotating head unit. This unit may be operated in three modes; DMX-512, Stand-Alone, or Master/Slave. The Orbitron™ comes with several build in programs and is best used in multiples of four or more. This piece is best used with a fog or haze machine to enhance the beam output. 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: This unit may blow a fuse if the maximum allotted load of 5 amps is reached. If the fuse needs replacement, always replace the fuse with same exact type that was remove, unless otherwise instructed by an authorized American DJ® service technician. Use of a different type fuse from that which is recommended may cause fire or electric shock and will void the manufactures warranty.

- 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.
- Cleaning -The fixture should be cleaned only as recommended by the manufacturer. See page 7 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 fixture does not appear to operate normally or exhibits a marked change in performance.

- *Micro-Stepping Motors for Smooth Transitions*
- *Uses Four DMX Channels*
- *DMX-512 Protocol Compatible*
- *Built-In Programs*
- *Room Type Function for Built-In Programs*
- *355° Pan / 335° Tilt*
- *Digital Display*
- *21 Clear, Crisp Beams of Light*
- *Variable Head Rotation (Through DMX Control)*
- *Master/Slave Operation*
- *Linkable up to Four Units*
- *Built-In Lamp Shut-Off Protection*
- *Internal Microphone*
- *Volume Sensitivity Knob*
- *Built-In Rigging Point*
- *Easy Lamp Replacement*
- *Long Life ZB-EHJ (24v/250w) Lamp - 500 Hours*
- *Optional MINI/C Blackout Controller*

The Orbitron™ 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.

Power Supply: Before plugging your unit in, be sure the source voltage in your area matches the required voltage for your American DJ® Orbitron.™ 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 Orbitron can be controlled via DMX-512 protocol. The American DJ® Orbitron™ is a four channel DMX unit. The DMX address is set on the side panel using the three function buttons under the LCD. 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.

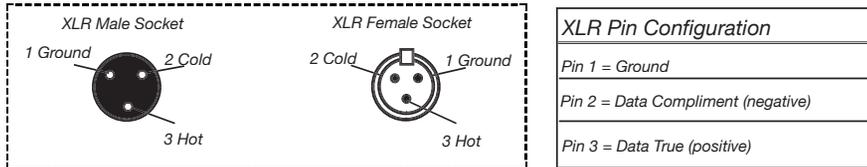


Figure 2

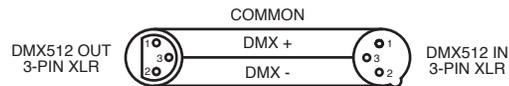


Figure 3

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.



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.

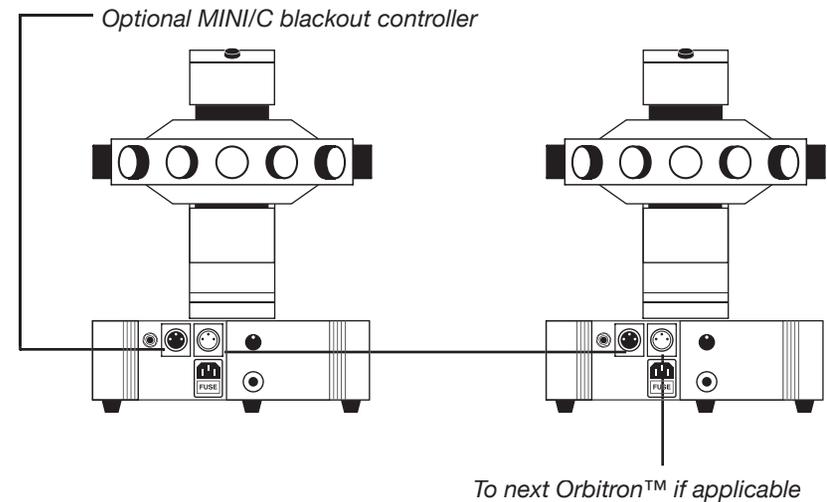
Figure 4

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

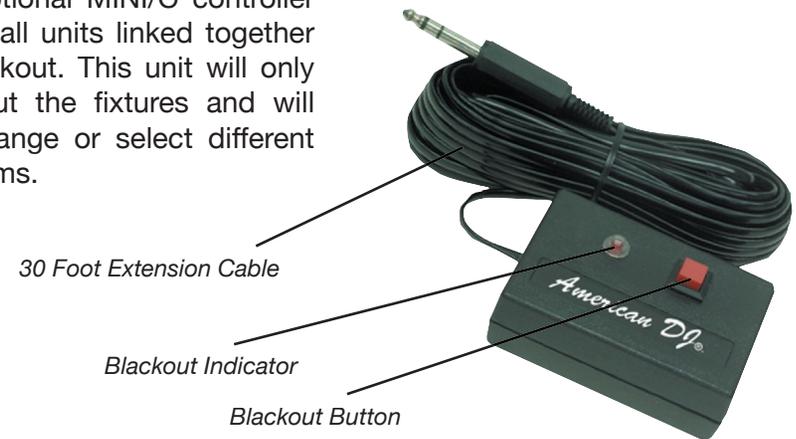
Master/Slave Linking:

For a more dramatic effect, link several Orbitron™ 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 5 and 6.



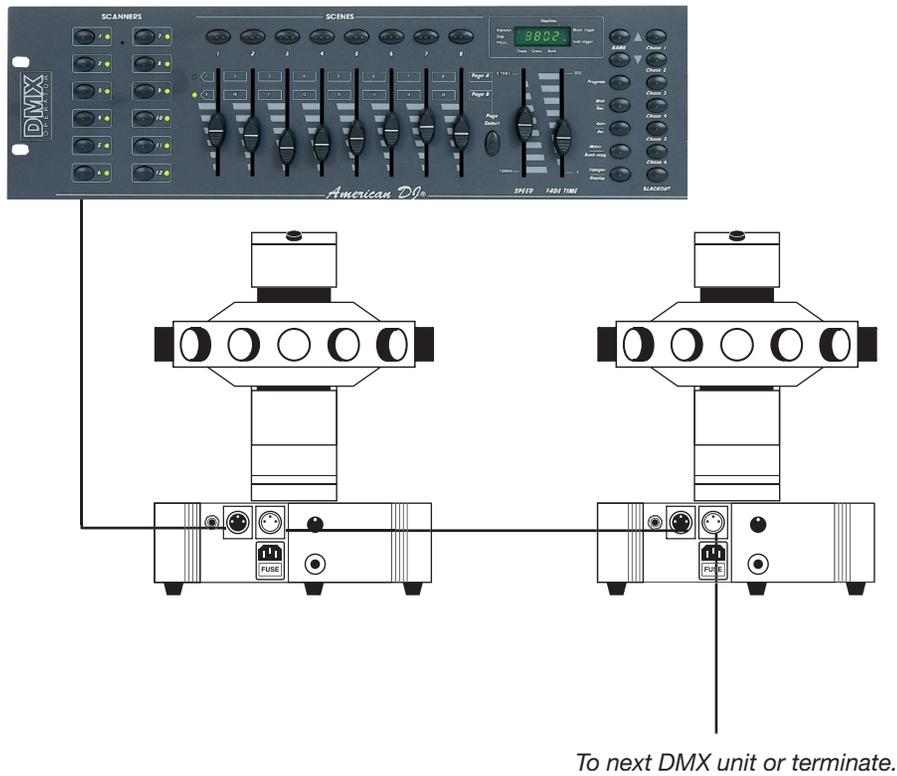
Optional MINI/C:

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.

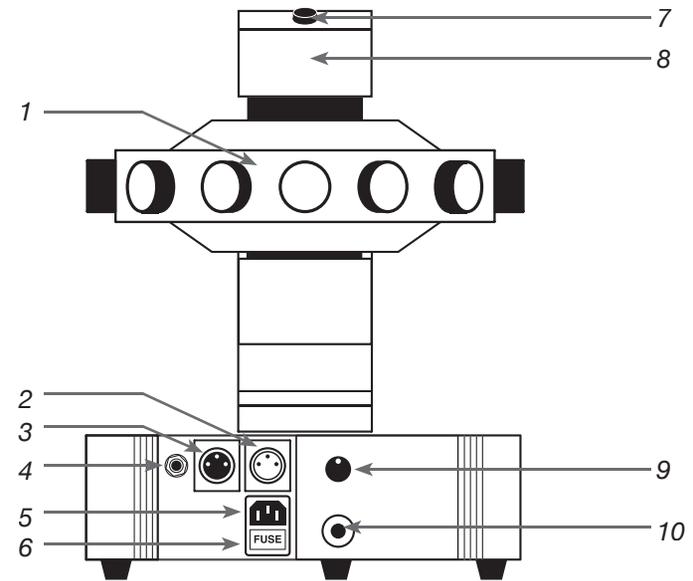


DMX Linking:

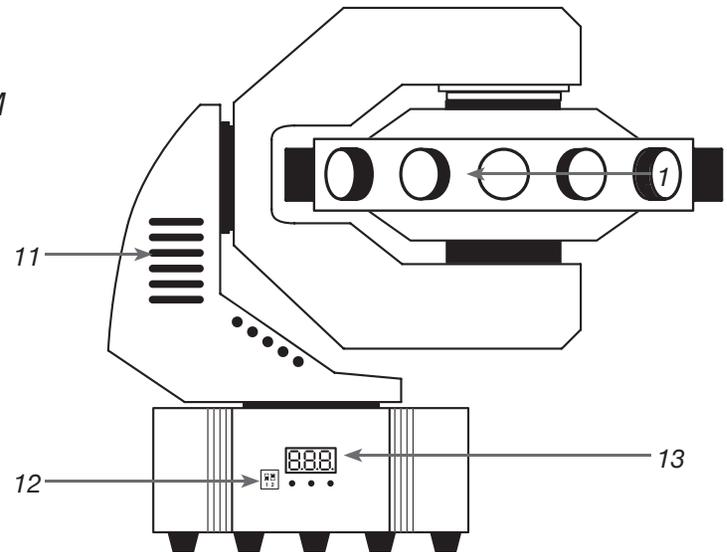
DMX function allows independent control of each fixture. Use any universal DMX controller to access the different traits associated with the Orbitron. A reference of different DMX traits is printed on page 21 of this manual. Link the units together using standard DMX cable as described on pages 5 and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



TOP



BOTTOM



1. Lens -

This is a fully focusing high quality lens. Focus the lens by manually turning the lens in a clockwise or counter-clockwise direction until the image is in focus.

2. XLR Output Jack -

This jack is used to transmit the incoming DMX signal to another DMX fixture, or transmit a Master/Slave signal to the next Orbitron™ in the chain. For best results in DMX or Master/Slave mode, terminate this jack if it is the last unit in the chain. See “Terminator” on page 7.

3. XLR Input Jack -

This jack is used to accept an incoming DMX signal (from a universal DMX controller) or Master/Slave (from the output jack of another Orbitron™) signal.

4. MINI/C Controller Jack -

This jack is for use with the optional MINI/C Blackout controller only. See page 7 for details on the MINI/C controller. Do not attempt to connect an audio signal this jack, this will damage the PC board and void your manufactures warranty!

5. Power Cord Connection -

The power connection uses an I.E.C. type connector, use only a power cord that matches this type of connection. Be sure to only connect this unit to a power outlet that matches the printed power label on the unit. Never use a power when the ground prong has been removed or broken off. The ground prong is used to reduce the risk of electrical shock in case of an electrical short. .

6. Fuse Holder -

This housing stores the 5 amp GMA protective fuse. Always replace with the exact same type fuse, unless otherwise instructed, by an authorized American DJ® service technician.

7. Lamp Socket Cover Thumb Screw -

This thumb screw holds the lamp socket assembly cover (16) into place.

8. Lamp Socket Cover -

This thumb screw holds the lamp socket cover (16) into place.

9. Audio Sensitivity Knob -

This knob adjust the audio sensitivity of the internal microphone (10). Turning the sensitivity knob in the clockwise direction will increase the sensitivity to sound. Turning the knob in the counter clockwise direction will decrease the fixture’s sensitivity to sound.

10. Microphone -

This microphone receives external low frequencies to trigger the unit in Sound-Active and Master/Slave mode..

11. Cooling Vents -

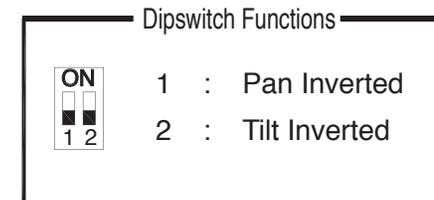
These vents are used to allow proper cooling. Keep the vents clean. Never block the vents, improper cooling may result in premature lamp failure.

12. Option Switches -

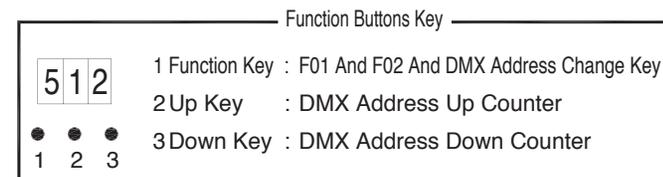
These are used to access two special functions:

Switch 1: Inverted Pan - When activated this switch will invert the PAN value. Left will become right and vice versa.

Switch 2: Inverted Tilt - When activated this switch will invert the TILT value. Up will become down and vice versa.

**13. Function Buttons -**

These buttons serve two functions. When the unit is to be used as the master unit in master/slave mode these switches are used to assign the program pattern type, either large or small. When the used is to be used as a slave or when in DMX mode these buttons are used to assign a DMX address to the unit.

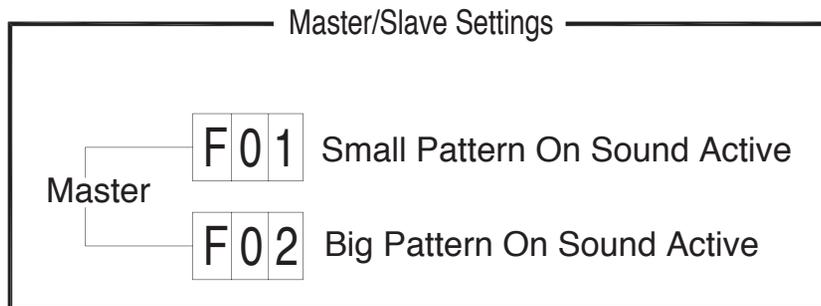


Operating Modes: The Orbitron™ may be operated in three different modes, however you must be sure to disconnect the power supply after you change the operating mode. This allows the unit to reset to the new operating mode. Failure to disconnect the power supply after changing the operating mode may cause the unit to function improperly.

- **Stand alone mode** - The unit will react to sound, chasing through the several built in programs. 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 a synchronized light show that will react to sound chasing through several built in programs. 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 individual fixtures traits with a standard DMX 512 controller such as the American DJ® and LSC® DMX Operator™ or Show Designer.™

Stand-Alone Operation (Sound Active): This function allows a single unit to run to the beat of the music. 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 and will only run to the units built-in programs.

1. To activate the Sound-Active mode, use the function button to select either a large or small program pattern (See “Master” on the function button chart above). Large or Small is used to reference the room size the unit will be used in. A large program type will use programs that cover a wide area and small program type will use programs that cover a narrow area.



2. The unit will now react to the low frequencies of music via the internal microphone.
3. Adjust the audio sensitivity knob on the side of the unit to make the unit more or less sensitive to sound. Turning the sensitivity knob in the clockwise direction will increase the sensitivity, turning the knob in the counter-clockwise direction will decrease the fixture's sensitivity to sound.
4. The optional MINI/C Blackout Controller may be used in this mode to control blackout.

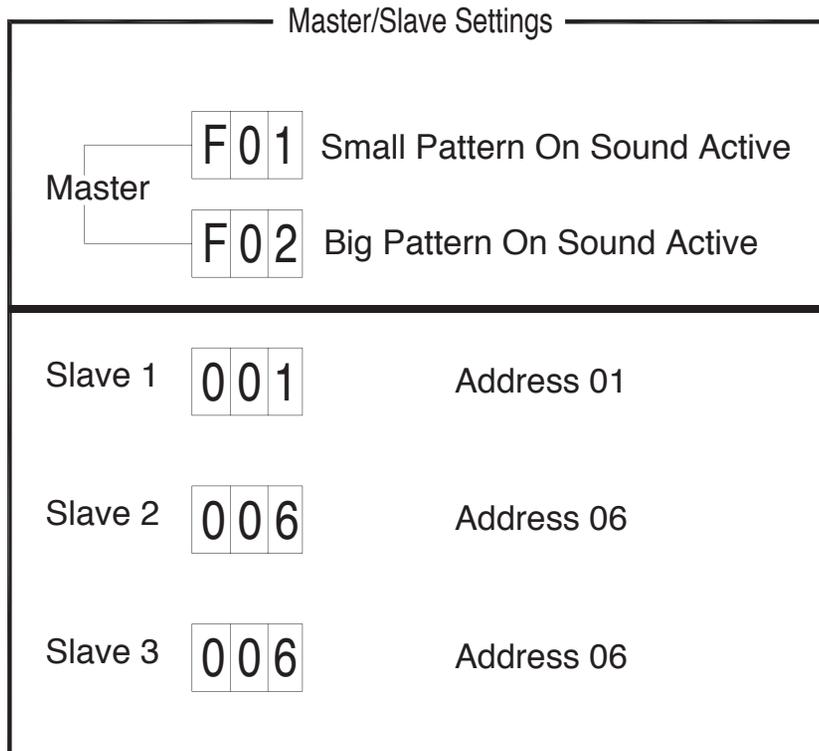
Note: Stand-Alone operation require sound to activate! The units will blackout in this mode to conserve bulb life when there is no sound present.

Master-Slave Operation (Sound Active): This function will allow you to link up to 4 units together and operate to the built-in programs without the use of an external controller. The units will all operate to sound, via the “Master” unit's internal microphone and sound sensitivity setting. In Master-Slave operation one unit will act as the controlling unit and the others will react to the controlling units programs. 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 five and six, 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. 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. Follow the chart at the end of this section for proper addressing.
3. Use the chart on the next page to set the program type, either large or small. Large or Small is used to reference the room size the unit will be used in. A large program type will use programs that cover a wide area and small program type will use programs that cover a narrow area.
4. Adjust the audio sensitivity knob on the side of the unit to make the unit more or less sensitive to sound. Turning the sensitivity knob in the clockwise direction will increase the sensitivity, turn-

ing the knob in the counter-clockwise direction will decrease the fixture's sensitivity to sound.

- The optional MINI/C Blackout Controller may be used with this function for blackout.



Note: Master-Slave operation require sound to activate! The units will blackout in this mode to conserve bulb life when there is no sound present.

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 head movement, and rotation. Operating through a DMX controller allows you the freedom to create unique and customized programs tailored to your specific individual needs.

- The Orbitron™ uses four DMX channels. Channel one controls pan, channel controls tilt, channel three controls the head rotation, channel four control the lamp. Page 20 details the different

DMX traits in depth.

- To control your fixture in DMX mode, follow the set-up procedures on pages 6 - 9 as well as the set-up specifications that are included with your DMX controller.
- Use the DMX controller's faders to control the various DMX fixture traits.
- This will allow you to create your own programs.
- 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.
- For help operating in DMX operation consult the manual included with your DMX controller.
- For longer cable runs (more than a 100 feet) use a terminator on the last fixture.

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 and mirror 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.

Trouble Shooting:

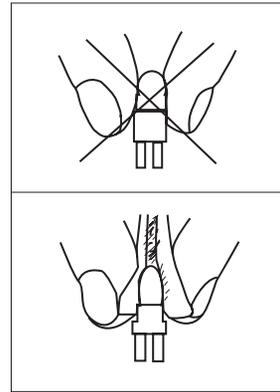
Listed below are a few common problems that you may encounter, with solutions.

No light output from the unit;

1. Be sure you have connected your unit into a standard 120V wall outlet.
2. Be sure the external fuse has not blown. The fuse is located on the bottom panel of the unit.
3. Remove the lamp cover and be sure the lamp is seated in its socket properly. Occasionally lamps become loose during shipping be sure the lamp is push in to its socket all the way.
4. 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.
2. Be sure the **SENSITIVITY KNOB (5)** is not set to the minimum position.



This fixture is fitted with halogen lamps which are highly susceptible to damage if improperly handled. Never touch the lamps with your bare fingers as the oil from your hands will shorten lamp life. Also, never move the fixture until the lamps have had ample time to cool. Remember, lamps are not covered under warranty conditions.

Caution: Always replace with the exact same type lamp and fuse, unless otherwise specified by an authorized American DJ® technician. Replace with anything other than the specified part can damage your unit and will void your manufactures warranty.

Warning: If, after replacing the lamp or fuse either one continues to blow, STOP using the unit. Contact customer support for further instructions, you may have to return the unit for servicing. Continuing to use the unit may cause serious damage.

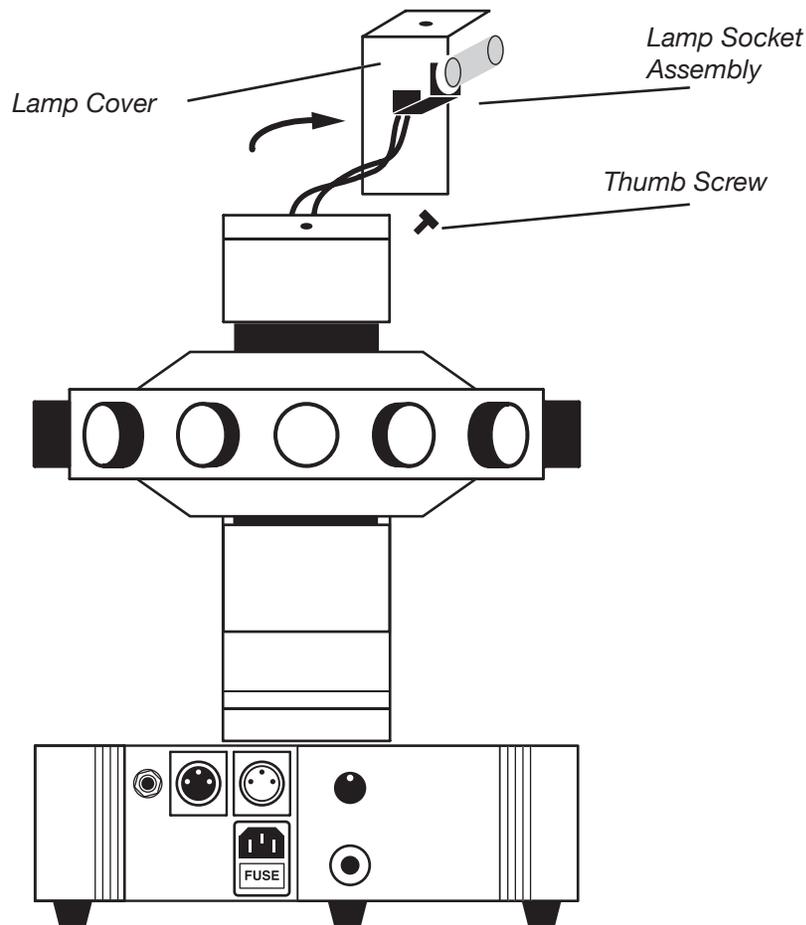
Fuse Replacement: Disconnect the unit's main power supply. Insert a standard flat head screw driver in to the fuse holder housing. Turn the screwdriver in counter-clockwise direction to remove the fuse holder. Remove the fuse holder to expose the fuse. Remove the old fuse and discard it. Replace the fuse with the same type. Insert the fuse holder back into it's housing and turn it in clockwise direction to lock the holder in place.

Lamp Replacement: Caution! Never attempt to change the lamp while the fixture is plugged in. Always disconnect the main power and allow the unit ample time to cool before attempting to replace the lamp. Lamp replacement has been made simple by incorporating the use of a flip-up front cover that is retained by thumb screws.

1. Be sure to follow the proper handling procedures that deal

with halogen lamps. **Never touch the new lamp with your bare fingers.**

2. Remove the thumb screw on the rear of the unit's head. This screw hold the lamp socket cover in place.
3. Pull back the cover once the screw has been removed to access the socket assembly.
4. Carefully remove the old lamp and discard it in the trash.
5. Replace the lamp with an exact match and reassemble.



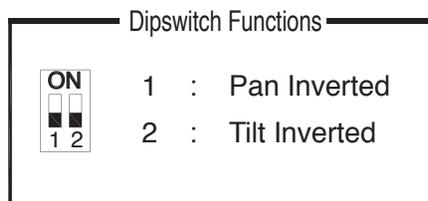
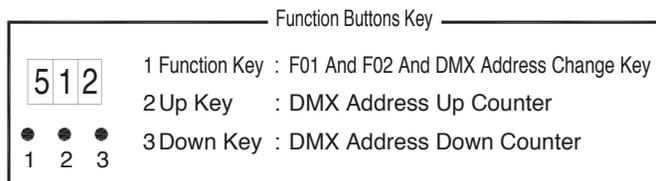
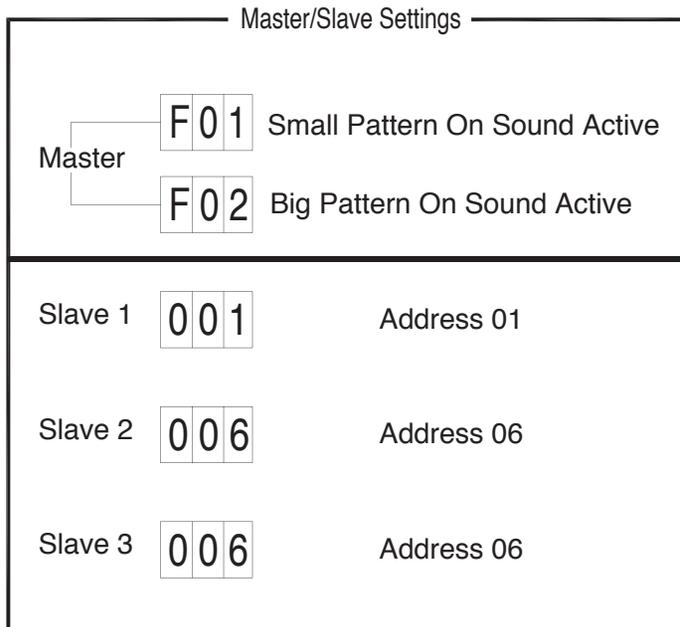
The Orbitron ships with a built-in rigging point and two large holes in the base of the unit that are to be used for safety cables. The rigging point is located on the bottom of the unit. This rigging point is secured to the fixture by two large Phillips screws. When the rigging point is not to be used and when the fixture is shipped from the manufacture, the point is shipped inverted. 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 Orbitron™ can be mounted to a wall or may hung from truss.

The chart below details the DMX traits in depth. The individual trait can only be accessed by using an universal DMX controller. Note: The gobo patterns can be found on the next page.

ORBITRON DMX TRAITS			
CHANNEL 1	CHANNEL 2	CHANNEL 3	CHANNEL 4
PAN 255 00 0 degree 335 degree	TILT 255 00 0 degree 335 degree	BARREL 255 00 00 01-127 Barrel - CCW 128 Stop 129 Speed Slow 1 RPM - 129 129-255 Barrel - CW 255 Speed Fast 60 RPM - 255	LAMP 255 00 Lamp Off - 00 01 Lamp On

Orbitron™ Master/Slave Quick Reference Chart

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. The Master - Head 1 settings should only be used once.



Orbitron™ Warranty

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: Orbitron™

Lamps:	ZB-EHJ 24v/250w
Voltage*:	120v~60Hz or 220v~50/60Hz
Dimensions:	16"(H) x 15.5"(W) x 11"(D) 406mm x 394mm x 280mm
Colors	Clear
Gobos:	None
Weight:	21 Lbs / 9.5 Kgs
Fuse:	5 Amp GMA
Duty Cycle:	None
DMX:	5 Channels
Sound Active:	Yes
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.