American 20 X-CALIBUR

DMX Intelligent Scanner



User Instructions

American Dy 4295 Charter Street Los Angeles Ca. 90058 www.americandj.com

(-Calibur™ Set

Introduction: Thank you for purchasing the American DJ X-CALI-BUR. To optimize the performance of this product, please read these operating instructions carefully to familiarize yourself with the basic operations of this unit. The American DJ® X-CALIBURTM is a unique four channel intelligent scanner. The X-CALIBURTM is DMX-512 compatible and may be used with any universal DMX controller. This does not contain built-in programs and is not sound active and must be used with some type of DMX controller. American DJ® offers the DMX Solo and Auto-Mate that have several built-in programs customized for the X-CALIBURTM. Please contact your dealer or customer support for more information on these controller as well as the full line of American DJ® controllers.

Unpacking: Every X-CALIBUR™ 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 have arrived intact. In the event damage has been found or parts are missing, please contact our toll free customer support number for further instructions. Please, do not return this unit to your dealer without first contacting customer support.

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

ax: (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 American DJ® customer support.

X-CaliBUR™ General Instructions

Please read and understand the instructions in this manual carefully and thoroughly before attempting to operate this unit. These instructions contain important information regarding safety during use and maintenance. Please keep this manual with the unit, as future reference.

X-Calibur™ Features

- 4 Channel DMX Scanner
- Easy Programmability.
- Midi Compatible
- Rear on/off switch
- Built in fuse protection
- Separate color and gobo wheels
- 8 dynamic gobo plus spot
- 9 vibrant colors plus white
- Option settings for; Focus, Self Test, Inverted pan and Inverted tilt
- Adjustable focus
- Standard DMX -512 protocol
- Stepper motor operation for smother operations
- Strobe from 1 to 7 FPS
- Lamp switches off after 30 seconds in blackout mode
- Easy access to lamp and lamp socket
- High output cooling fan

X-Calibur™ Warranty Registration

The X-Calibur™ carries a one year (365 days) limited warranty. We recommend you 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.

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Safety Precautions

- This unit may blow a fuse if the maximum allotted load of 7 amps (220v = 5 amps) is reached. If the fuse needs replacement, always replace the fuse with same exact type that was remove. 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
- Be sure that the local power outlet match that of the required voltage for your unit
- Do not attempt to operate this unit if the power cord has been frayed or broken
- Do not attempt to remove or break off the ground prong from the electrical cord. This prong is used to reduce the risk of electrical shock and fire in case of an internal short
- Disconnect from main power before making any type of connection
- Do not remove the cover under any conditions. There are no user serviceable parts inside
- Never operate this unit when it's cover is removed
- Never plug this unit in to a dimmer pack
- Always be sure to mount this unit in an area that will allow proper ventilation. Allow about 6" (15cm) between this device and a wall
- Do not attempt to operate this unit, if it becomes damaged
- This unit is intended for indoor use only, use of this product outdoors voids all warranties
- During long periods of non-use, disconnect the unit's main power
- Always mount this unit in safe and stable matter
- Power 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
- A. The power-supply cord or the plug has been damaged.

 B. Objects have fallen, or liquid has been spilled into the unit
- C. The unit has been exposed to rain or water.

X-Calibur™ Set Up

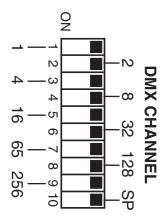
Power Supply: Before plugging your unit in be sure the source voltage in your area matches the required voltage for your American DJ® X-CALIBUR.™ The American DJ® X-Calibur™ is available in a 115v and 230v version. Because line voltage may vary from venue to venue, you should be sure to plug your power supply into a matching wall outlet before attempting to operate you controller.

DMX-512: DMX is short for Digital Multiplex. This is a universal protocol used as a form of communication between intelligent fixtures and controllers. A DMX controller sends DMX data instructions from the controller to the fixture. DMX data is sent as serial data that travels from fixture to fixture via the DATA "IN" and DATA "OUT" XLR terminals located on all DMX fixtures (most controllers only have a DATA "OUT" terminal).

DMX Linking: DMX is a language allowing all makes and models of different manufactures to be linked together and operate from a single controller, as long as all fixtures and the controller are DMX compliant. To ensure proper DMX data transmission, when using several DMX fixtures try to use the shortest cable path possible. The order in which fixtures are connected in a DMX line does not influence the DMX addressing. For example; a fixture assigned a DMX address of 1 may be placed anywhere in a DMX line, at the beginning, at the end, or anywhere in the middle. When a fixture is assigned a DMX address of 1, the DMX controller knows to send DATA assigned to address 1 to that unit, no matter where it is located in the DMX chain.

Dip-switches in DMX mode: This unit uses dip switches to assign a DMX address. Each dip switch represents a binary value.

Dip Switch 1 address equals 1
Dip Switch 2 address equals 2
Dip Switch 3 address equals 4
Dip Switch 4 address equals 8
Dip Switch 5 address equals 16
Dip Switch 6 address equals 32
Dip Switch 7 address equals 64
Dip Switch 8 address equals 128
Dip Switch 9 address equals 256



Each dip switch has a preset value. A specific DMX address is set by ⊚American DJ Supply⊚ - www.americandj.com - X-Calibur™ Instruction Manual Page 5

X-CalliburTM
Set Up

combining the dip switches that sum your desired value. For example: To achieve a DMX address of 21, combine dip switches 1, 3, and 5. Sense dip switch 1 has a value of 1, dip switch 3 has a value of 4, and dip switch 5 has a value of 16, the combination of the create a DMX value of 21.

 Set DMX address 21:
 Set DMX address 201:

 Dip-switches # 1 = 1
 Dip-switches # 1 = 1

 3 = 4
 4 = 8

 5 = 16
 7 = 64

 = 21
 8 = 128

 = 201

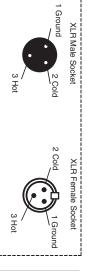
Data Cable Requirements (For DMX and Master/Slave Operation): The X-Calibur™ must be controlled via DMX-512 protocol. The DMX address is set using the dip-switches on the bottom panel of the X-Calibur™. Your unit excepts 3-pin XLR connector for data input and data output (Figure 5). When using a DMX controller with 5-Pin XLR output jacks or when linking from a DMX fixture with 5-Pin XLR jack to the X-Calibur™, be sure to follow the pin conversion chart on page 12. If you are making your own cables, be sure to use standard two conduc-

version chart on page 12. 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 figures 2 and 3 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.



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

Figure 2

igure 3

unit in your daisy chain to terminate the line. Using a cable terminator used, you may need to use a terminator on the last unit to avoid erratic (ADJ part number ZDMX/T) will decrease the possibilities of erratic DATA -). This unit is inserted in the female XLR connector of the last nected between pins 2 and 3 of a male XLR connector (DATA + and behavior. A terminator is a 90-120 ohm 1/4 watt resistor which is con-Special Note: Line Termination. When longer runs of cable are



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.

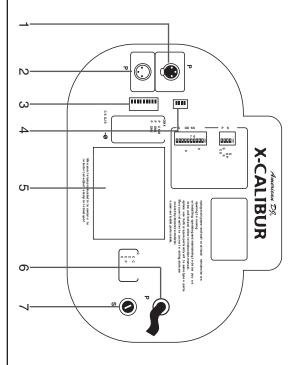
Figure 4

5-pin XLR connectors in to a 3-pin line a cable adaptor must be used may be implemented in a 3-pin XLR DMX line. When inserting standard connectors for DATA transmission in place of 3-pin. 5-pin XLR fixtures below details a proper cable conversion. these adaptors are readily available at most electric stores. The chart 5-Pin XLR DMX Connectors. Some manufactures use 5-pin XLR

Do Not Use		Not Used
Do Not Use		Not Used
Pin 3	Pin 3	Data True (+ signal)
Pin 2	Pin 2	Data Compliment (- signal)
Pin 1	Pin 1	Ground/Shield
5-Pin XLR Male (In)	3-Pin XLR Female (Out) 5-Pin XLR Male (In)	Conductor
rsion	3-Pin XLR to 5-Pin XLR Conversion	3-Pin

X-Calibur™

Fuse & Lamp Replacement



- signal to another fixture. XLR Output Jack - This jack is used to send the incoming DMX
- Ņ XLR Input Jack - This jack is used to accept a DMX input
- ယ္ Dip Switches - These switches are used to set the DMX address. Each switch corresponds to a specific value based on binary code.
- Option switches These switches will activate one of four options:
- beam properly. the mirror with a white spot. This will allow you to focus the Switch 1: Focus - When activated this switch will center
- vate a built in self test program. Switch 2: Self Test - When activate this function will acti-
- versa. invert the Switch 3: Inverted Pan - When activated this switch will PAN value. Left will become right and
- invert Switch the Inverted Tilt - When TILT value. Up will become activated down and vice this switch will
- ឯ Lamp Housing - This cover enclose the lamp and lamp socket.

X-Calibur™ Fuse & Lamp Replacement

- 6. Power Cord This cord is used feed main power to the fixture.
 Be sure the main power matches that of the required power of your fixture.
- Fuse Holder This houses the safety fuse. Replace with exact type.

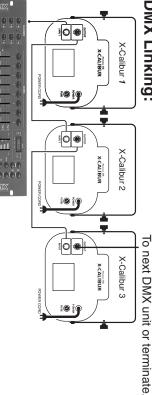
X-Calibur™ Operation

DMX Operation:

This unit must be controlled with a DMX controller. This unit is not sound active and does not include any built in programs. For best result we recommend the American DJ Show Designer or the American DJ DMX Operator to control the X-CaliburTM.

- Operating through a DMX controller gives the user freedom to create his/her own programs tailored to their own individual needs. This function also allows you to use your fixtures as spots.
- This operation will allow you to control each individual fixtures traits with a standard DMX 512 controller such as the American DJ Show DesignerTM or the American DJ®DMX Operator.TM
- The X-Calibur™ uses four DMX channels to operate; Channel 1 is Pan, channel 2 is Tilt, channel 3 is Color, and channel 4 controls the Gobos.
- 4. To run your fixture in DMX mode, plug in the fixture via the XLR connections to any standard DMX controller. Follow the set-up specifications that come with the controller.
- Use your controller to control the various fixture traits. A complete break down of the DMX traits can be found on page 12 of this manual.

Typical DMX Linking:



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X-Calibur™ Operation

- . To focus a X-CALIBUR,™ disconnect main power and flip the option dip switch one to the on position. Then reconnect main power.
- After the unit resets the lamp will strike. The mirror will center and a preselected gobo will projected.
- Loosen the thumb screw on the front of the unit that hold the lens in place.
- Adjust the focus by manually moving the lens up and down.
 Tighten the thumb screw after you achieve your desire
- Tighten the thumb screw after you achieve your desired focus.
- Disconnect main power and return the number one option dip switch to the off position.
- 7. Reconnect main power.

X-Calibur™ Cleaning

Due to fog residue, smoke, and dust, cleaning the internal and external optical lenses must be carried out periodically to optimize light output.

- Use normal glass cleaner and a soft cloth to wipe down the outside casing.
- Use a brush to wipe down the fan grill.
 Clean the external optics with glass c
- . Clean the external optics with glass cleaner and a soft cloth every 20 days. Situation may very. If used heavily in clubs with lots of fog, cleaning may be required more often.
- Clean the internal optics with glass cleaner and a soft cloth every 30-60 days.
- Always be sure to dry all parts completely before plugging the unit in.

Cleaning frequency depends on the environment in which the fixture operates (i.e. smoke, fog residue, dust, dew).

X-Calibur™

Fuse & Lamp Replacement

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

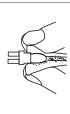
Lamp Replacement: Caution! Never attempt to change the lamp while the fixture is plugged in. Always disconnect the main power and allow the unit ample time to cool before attempting to replace the lamp.

- Be sure to follow the proper procedures when handling halogen bulbs.
- 2. Lamp replacement has been made simple by incorporating the use of a removable front cover and thumb screws.
- Loosen the thumb screws on front cover.
- 4. Remove the cover.
- 5. Remove and replace the bulb and reassemble in reverse order.



Halogen Lamp Warning:

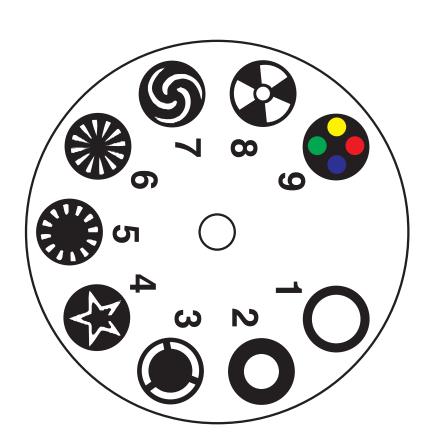
This fixture is fitted with a halogen lamp which is highly susceptible to damage if improperly handled. Never touch the lamp with your bare fingers as the oil from your hands will shorten lamp life. Also, never move the fixture until the lamp has had ample time to cool. Remember, lamps are not covered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



ment X-Calibur™

Gobo Wheel

This chart details the gobo pattern as well as the gobo wheel placement.



X-Calibur™ DMX Traits

The X-Calibur™ is a four channel scanner. This chart details the DMX traits of the X-CALIBUR.™ Use your controller's fader levels to scroll through the different values. Each fader value dictates the fixtures operation.

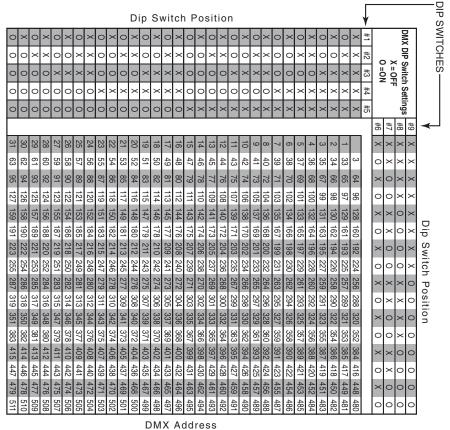
0 5 9 5 9 5 9 0 0 0 0 0 0 0 0 0 0 0 0 0	255 丁	LEVEL RANGE 0 - 255	DMX512	
Q (Y	PAN	1	C
		TILT	2	CHANNE
PINK GREEN ORANGE YELLOW LIME GRN BLUE RED/ORNG WHITE BLACKOUT) ~	COLOR	3	۳
	4 ×7	GOBO	4	

X-Calibur™

DMX Dip Switch Chart

This chart list the DMX dip switch setting for DMX address 1 through 511. Follow the instructions below to configure fixture dip switches with your desired DMX address.

DMX Address Quick Reference Chart



DMX Address

The center numbers of this chart (1-511) represent a DMX address. The "X"'s and "O"s along the top and side of the chart represent dip switch poistion ("X" for off and "O" for on). Find your desired DMX address from the center chart. Identify the position for dip switches 1-5 from the chart on the left and dip switches 6-9 from the chart on the top. Adjust the dip switches on your fixture to match the position settings of the chart. For fixtures with 10 dip switches; dip switch 10 is reserved for special functions.

X-Calibur™ Warranty

1-YEAR LIMITED WARRANTY

- sibility to establish the date and place of purchase by acceptable evidence, at the time ser the United States of America, including possessions and territories. It is the owner's responvice is sought. from the date of purchase. This warranty shall be valid only if the product is purchased within free of manufacturing defects in material and workmanship for a period of 1 Year (365 days) A. American DJ® hereby warrants, to the original purchaser, American DJ® products to be
- of or damage to any such accessories, nor for the safe return thereof are within the terms of this warranty, American DJ® will pay return shipping charges only to a charges must be pre-paid. If the requested repairs or service (including parts replacement) sories are shipped with the product, American DJ® shall have no liability whatsoever for loss in its original package. No accessories should be shipped with the product. If any accesdesignated point within the United States. If the entire instrument is sent, it must be shipped B. For warranty service, send the product only to the American DJ® factory. All shipping
- ability of the product; if the product has been repaired or serviced by anyone other than the is modified in any manner which American DJ® concludes, after inspection, affects the reli-C. This warranty is void if the serial number has been altered or removed; if the product DJ®; if the product is damaged because not properly maintained as set forth in the instruction American DJ® factory unless prior written authorization was issued to purchaser by American
- parts, at the sole discretion of American DJ®. All products covered by this warranty were or periodic check-up. During the period specified above, American DJ® will replace defective D. This is not a service contract, and this warranty does not include maintenance, cleaning manufactured after January 1, 1990, and bear identifying marks to that effect this warranty shall be limited to the repair of the product, or replacement thereof, including reason of defects in material or workmanship. The sole responsibility of American DJ⊚ under parts at its expense, and will absorb all expenses for warranty service and repair labor by
- its products without any obligation to include these changes in any products theretofore E. American DJ® reserves the right to make changes in design and/or improvements upon
- consequential, arising out of the use of, or inability to use, this product. and under no circumstances shall American DJ® be liable for any loss or damage, direct or or Dealer's sole remedy shall be such repair or replacement as is expressly provided above law, all implied warranties made by American DJ® in connection with this product, including sory supplied with products described above. Except to the extent prohibited by applicable F. No warranty, whether expressed or implied, is given or made with respect to any accesability or fitness, shall apply to this product after said period has expired. The consumer's and above. And no warranties, whether expressed or implied, including warranties of merchantwarranties of merchantability or fitness, are limited in duration to the warranty period set forth
- supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published. G. This warranty is the only written warranty applicable to American DJ® Products and
- H. All lamps and fuses are not covered under this warranty.

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MODEL: X-CALIBUR™

SPECIFICATIONS:

DIMENSIONS LAMP: *VOLTAGE:* ZB-ELC 24V/250W 25" X 10.5" X 7" 120V / 220V

40 LBS.

WEIGHT:

FUSE: **WORKING POSITION:** 7 A

COOLING: DUTY CYCLE: 30 MIN. ON, 10 MIN. OFF FAN COOLED ANY SAFE POSITION

COLORS: GOBOS: 9/PLUS WHITE 8/PLUS SPOT - FIXED

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

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