LRX Mantis

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LRX Mantis

⚠ WARNING

READ EQUIPMENT MANUFACTURES MANUAL BEFORE USING THIS PRODUCT

- IMPORTANT NOTE: Lamps must have an overall length of 470mm or less. Confirm fit with the lamp in place and fixture set to the flood position, carefully close the lens door checking for lamp clearance on the UV lens.

SAFETY INSTRUCTIONS

- Prior to operation a daily inspection and log are required.
- Users must be authorized, qualified, and certified in their jurisdiction of use.
- It is the user's responsibility and obligation to determine and comply with all applicable laws and regulations.
- Do not operate if the unit appears damaged.
- Always use approved safety cables secured to a point capable of supporting the total weight of the load.
- In case of malfunction disconnect all power supplies, discontinue use, notify supplier.
- Area under fixture must be always cordoned off and kept clear of all personnel.
- For handling information see page twelve.
- Do not operate without UV lens in place.
- THERE ARE NO USER SERVICEABLE PARTS.
- IF YOU ARE UNSURE ABOUT ANYTHING SUSPEND USE OF THE PRODUCT.
- Questions? Contact LRX LLC service representative, for contact details go to lrx-lighting.com and click on the contact page.
- For the latest version of this manual please visit "lrx-lighting.com"

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DANGER

- Dangerous voltages are present when power is supplied to the fixture.
- This fixture has more than one power supply. Disconnect lamp power supply before installation or removal of the lamp.
- Ensure lamp power supply matches lamp manufactures specification.
- Always stand clear of fixture during ignition cycle.
- Ensure fixture meets all local codes prior to operation.
- Safe electrical and working practices must be observed.

WARNING

- This fixture has rotating parts with pinch points.
- Fixtures may move without warning.
- No personal within range of motion.
- Never operate fixture with any covers missing.
- Fixture cooling fans may start automatically, without warning.

WARNING

HEAT AND ULTRAVIOLET RADIATION!

- Arc lamps generate broad spectrum UV radiation.
- Do not operate without complete lamp enclosure in place.
- Do not operate if the UV lens is damaged or missing.
- Limit exposure to high density light.
- UV blocking suntan lotion should be used when working in high density light locations.
- Excessive exposure to high intensity white light may cause fatigue and skin irritation.
- High energy light output will burn skin and ignite combustible materials. Do not operate in the proximity of materials that are adversely affected by heat or light.
- Failure to adhere to these warnings may result in serious burns or irreversible skin/eye damage.
- Do not look directly into the light during operation.

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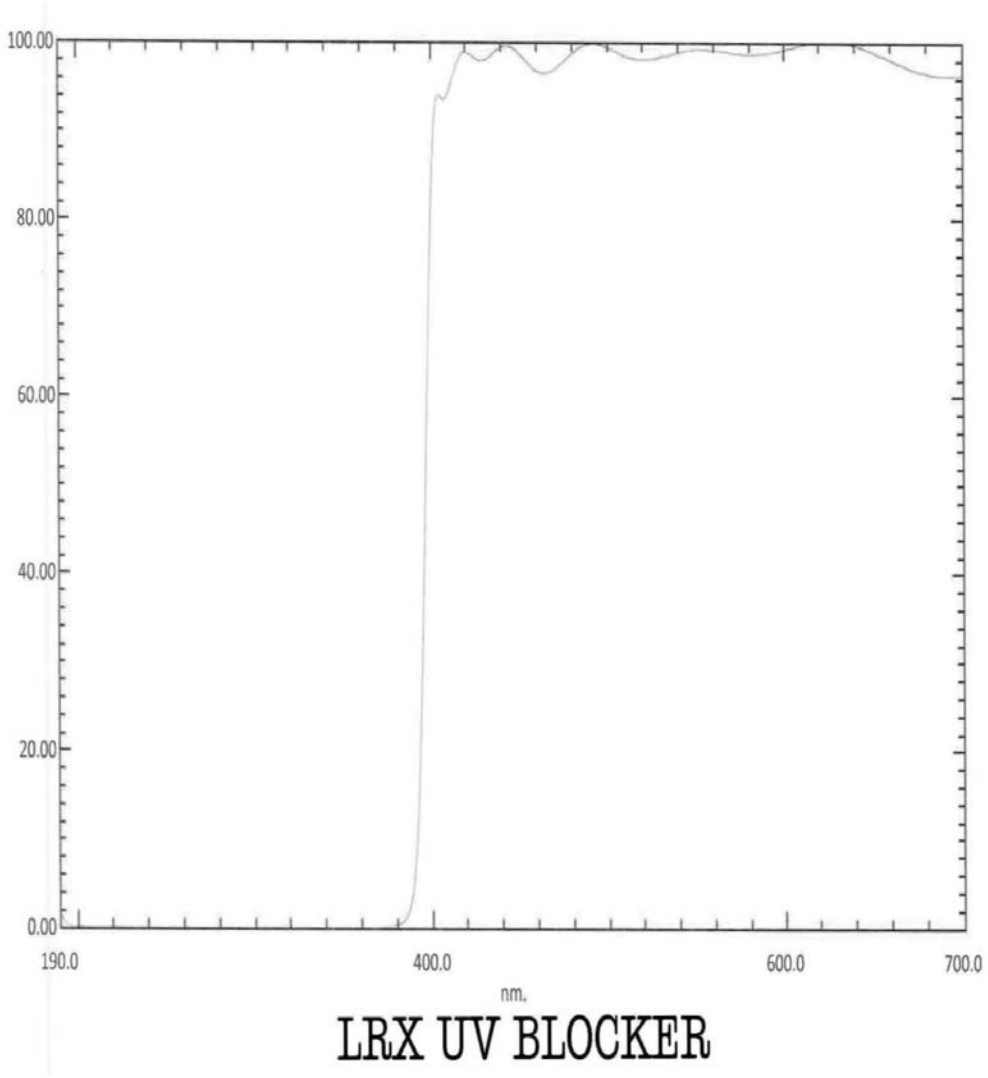
- Personal or flammable objects may not be within 40m (131 feet) of the lens during operation.
- Lamp housing becomes extremely hot when in operation, avoid contact.
- When fixtures are mounted in close proximity to one another, care must be taken so that output energy from one fixture is not directed at another fixture, electrical cabling, mounting structure, etc.
- IMPORTANT: Please follow the operating instructions of the ballast.



LRX UV BLOCKER

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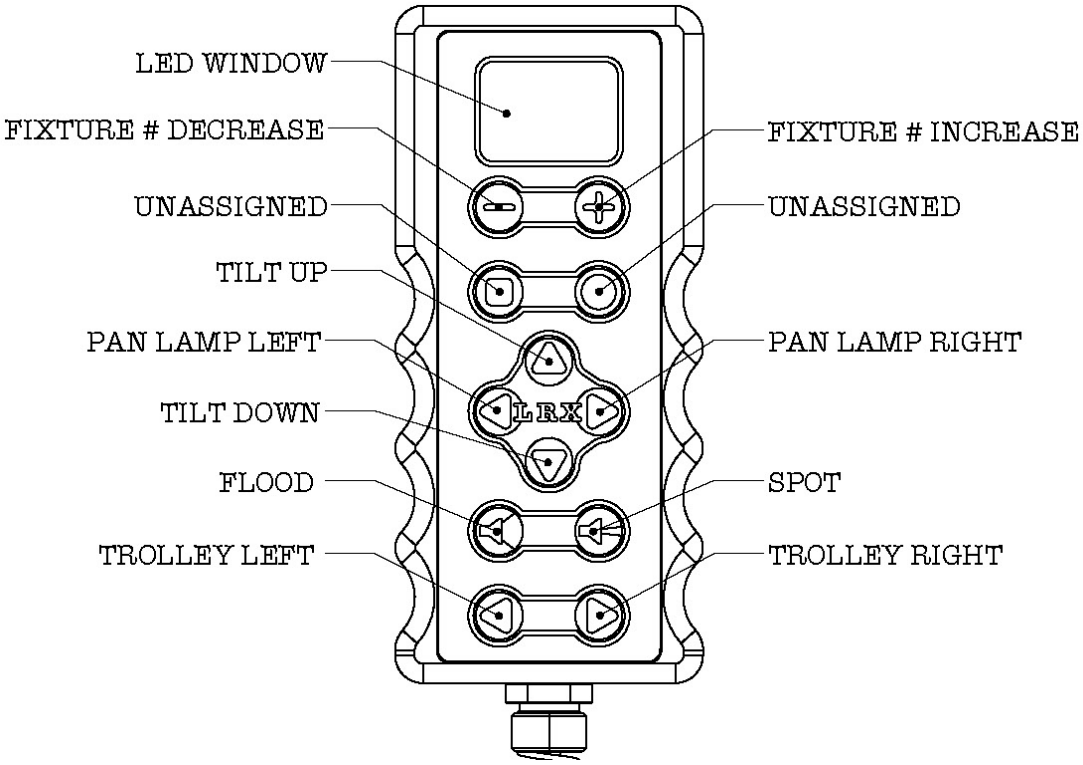
Hand Controller



When the LRX fixture in FIXTURE mode, pins 4 & 5 on the DMX IN connector become energized to 12VDC to supply power to the hand controller. No power is supplied to pins 4 & 5 when in DMX mode. Ensure that fixture is in the correct mode prior to connecting DMX lines. Always connect the hand controller to the fixture with the

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LRX Mantis

Fixture Specifications

Electrical: Note this fixture has multiple power sources.

Control power:

- Battery (for programing and parking)
- 90-250 AC – non-dimmed feed line 50/60 Hertz
- Watts: 250W
- Power from Lamp Supply

Metal Halide Lamps:

- 6KWSE with extended 38mm base (Wolfram)
- 6KSE standard 38mm base requires a socket extender part number - G38-6X, will be required to compensate for the shorter L.C.L. of the standard 6KSE lamp.
- 12KWSE with a 38mm base
- 18KWSE with a 38 or 51mm base. IMPORTANT NOTE: Lamps must have an overall length of 470mm or less. Confirm fit with the lamp in place and fixture set to the flood position, carefully close the lens door checking for lamp clearance on the UV lens. Osram lamps are 495mm and do not fit.

Tungsten Lamps:

- 10KWSE with a 38mm base
- 12KWSE with a 38mm base

Head Input Connector:

- Input is configured to accept the Arri type 12/18K connector.
- LRX fixture connector: Cannon part# CBO-28A16PS-A232
- Tungsten mode requires LRX Tungsten input connector with tails that mate to local distribution.
    a. Pin “C” = Line
    b. Pin “H” = Neutral
    c. Pin “B” = Ground
- See wiring diagram for all pin out connections.

Data Cable:

- Five pin XLR connector

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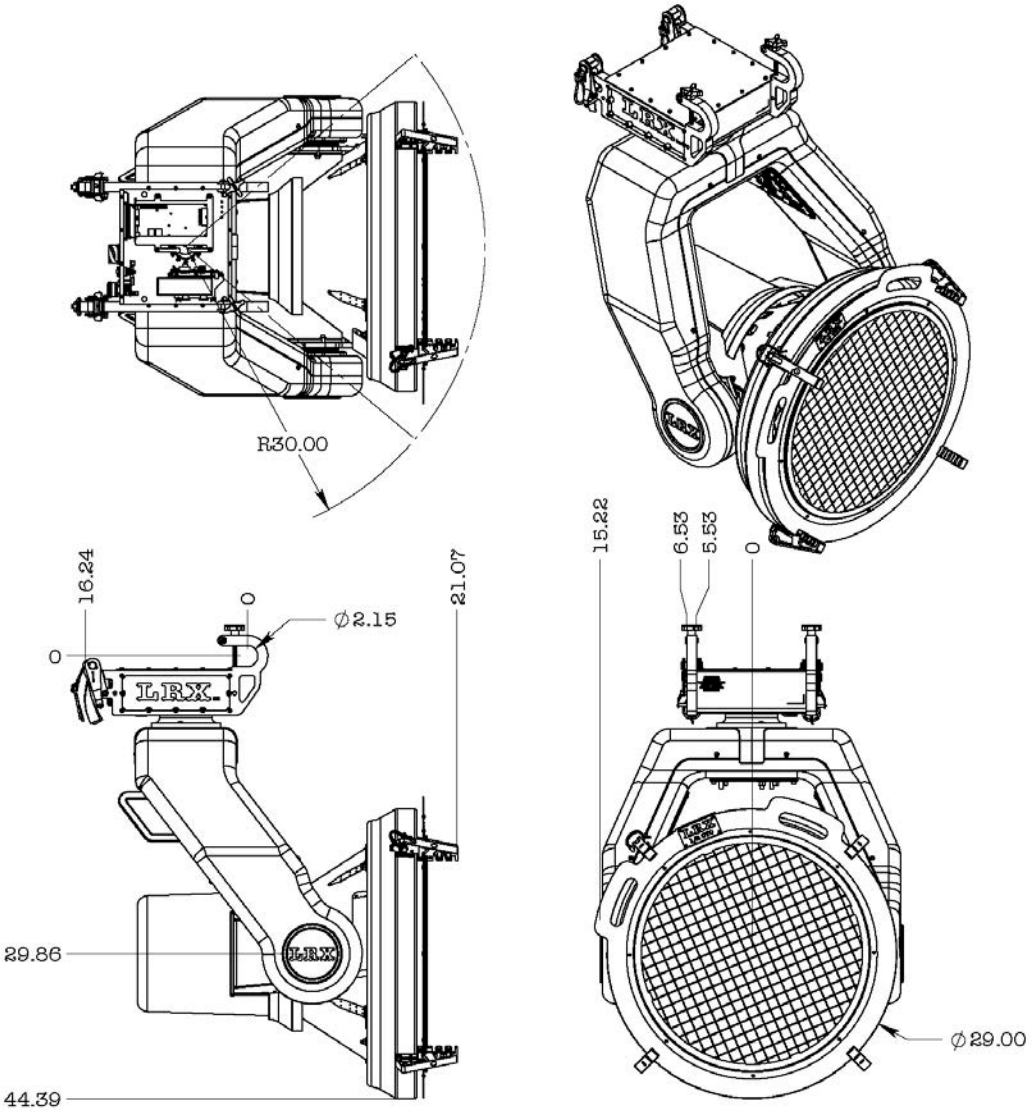
LRX Mantis

Physical

- Tilt: 40 degrees above horizontal to 90 degrees below horizontal
- Pan: 330 degrees
- Weight: 57kg/125 pounds approx.
- Designed to accept 29" diameter filter frames, scrims & etc.
- Fixture mounting hooks have been designed to mate with truss chords not greater than two inches (50.8mm) in diameter.
- IP rating: IP54



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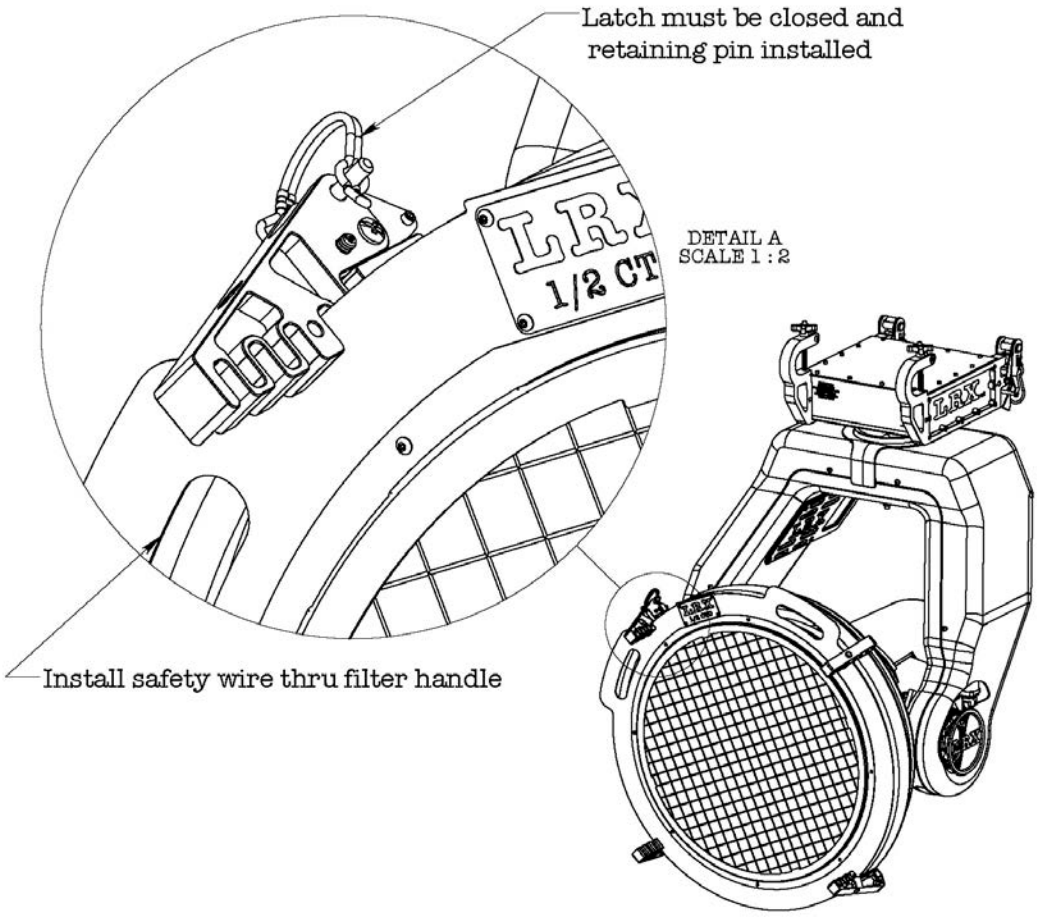
LRX Filters

- Environmentally friendly.
- LRX Lighting offers several high-quality extreme temperature color correction and diffusion filters. These filters will not burn or change color and should be the first choice.
- LRX Lighting currently stocks:
- ¼ CTO, ½ CTO & Full CTO
- ½ CTB & Steel Blue
- Cyan 30 & 60
- ¼ & ½ Plus Green
- ½ White Diffusion & Full White Diffusion

  * * *Custom colors can be produced to your specifications* * *
- Industry standard gel type color correction or diffusion filters can be used with the supplied ring type frames.
- Attach safety wires as required.



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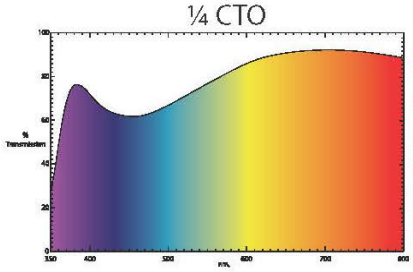
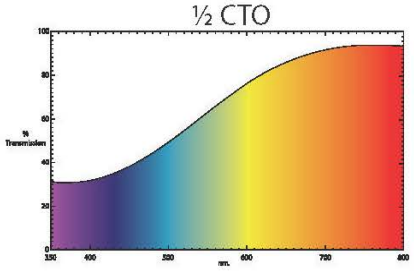
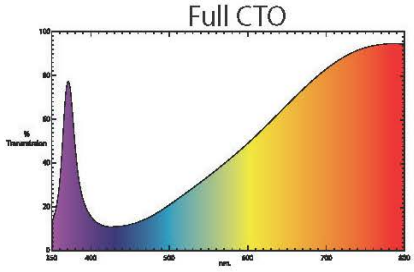
¼ CTO



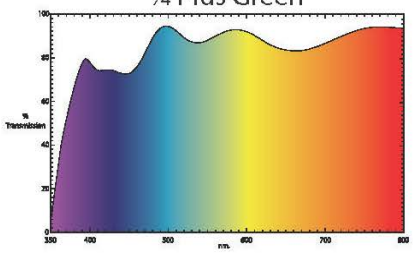
½ CTO



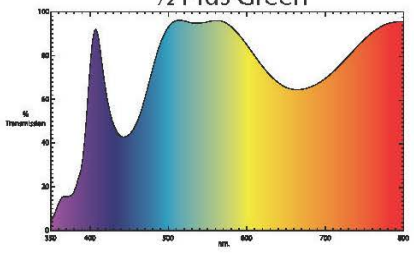
Full CTO



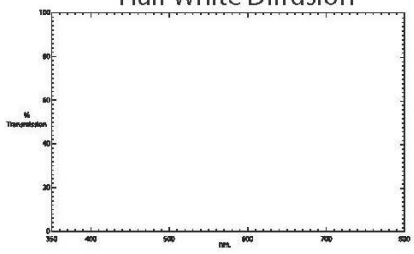
¼ Plus Green



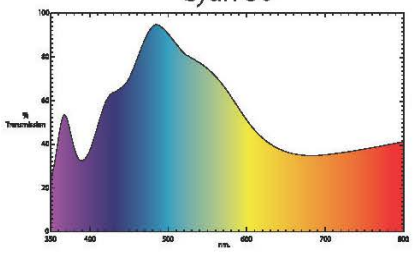
½ Plus Green



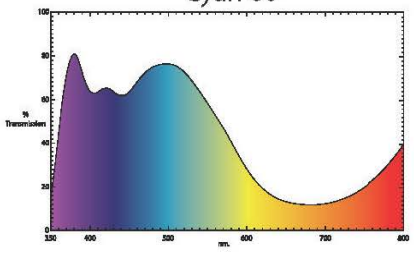
Half White Diffusion



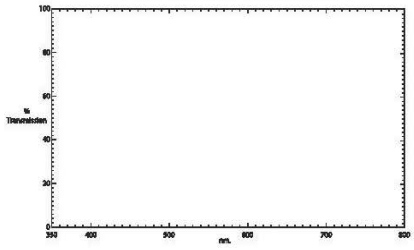
Cyan 30



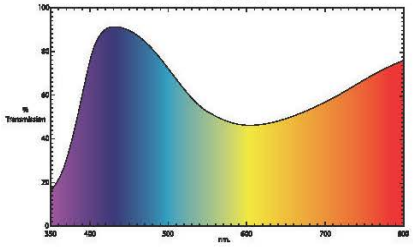
Cyan 60



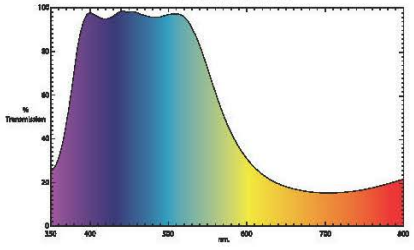
Full White Diffusion



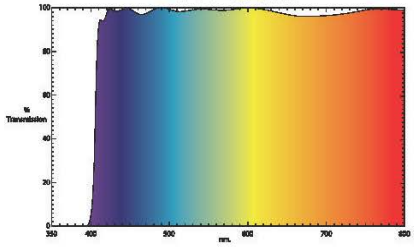
½ Blue



Steel Blue



UV Blocker



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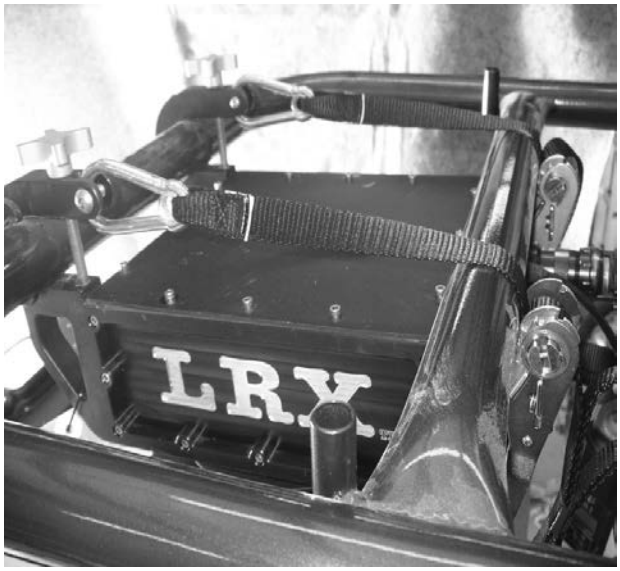
LRX Mantis

Handling the Fixture

- Opening the shipping case cover requires two people to lift. Always use handles to avoid potential pinch points.
- Heavy lift, minimum two persons, the fixture weight is approximately 57kg/125 pounds.
- Hanging of the fixture creates several potential pinch points.
- Use fixture lifting points, two handles as well as the yoke housing near the tilt bearing housing are used for lifting.
- If there are any concerns regarding handling, please contact your supervisor.
- Ensure hanger bolts are installed immediately after hanging the fixture.
- Ratchet straps must always have a minimum of one and a half wraps around the ratchet drum.



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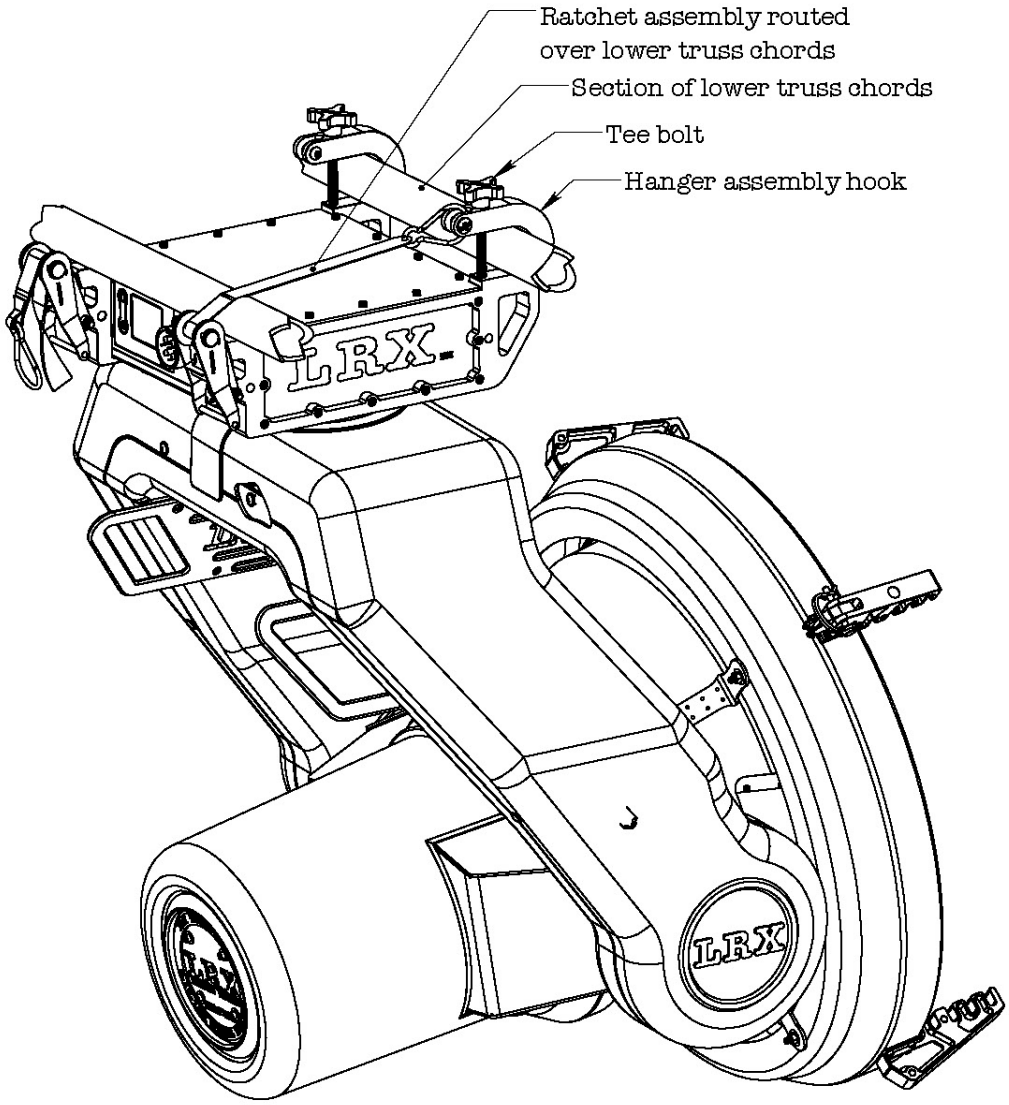
Typical Mounting Configuration
Fixture Weight: 125 pounds



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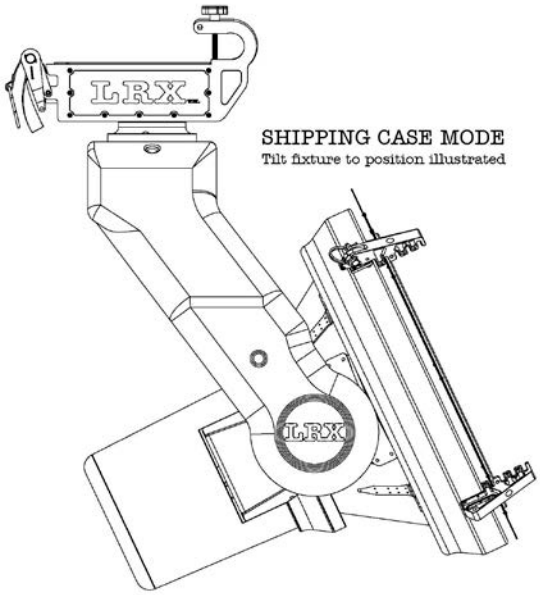
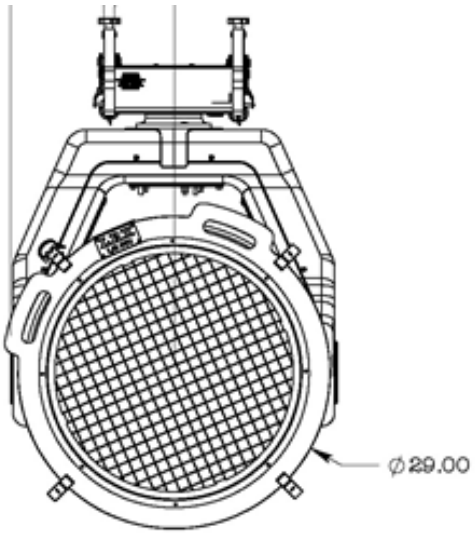
Mounting the Fixture in the Shipping Case

Re-installing the fixture into the shipping case.

- IMPORTANT: Position fixture as illustration below. Filter frame holder damage could result if forced into the shipping case.
- Align hanger and yoke assembly so that the fixture is pointed straight ahead.
- The fixture should be left in spot position with the socket tightened slightly to prevent the "T-handle" from turning out during shipping.
- Install onto shipping frame, tighten T-bolts and ratchet straps, and ensure there is a minimum of two wraps on the ratchet drum to avoid the strap slipping through the ratchet drum.
- Always store shipping cases in a dry location





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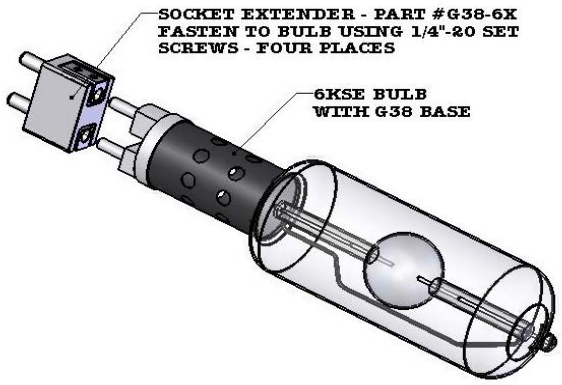
LRX Mantis

Lamp Installation

- Several hazards exist during lamp installation please refer to safety warnings in this manual as well as lamp manufacturers and other industry guidelines.
- Follow lamp manufactures instructions regarding use and handling of their product.
- This fixture has more than one power supply. Disconnect all power supplies before installation or removal of the lamps.
- Allow lamps to cool before removing.
- Prior to installing the lamp, check lamp socket contacts and wire ends for signs of arcing or over-heating. If lamp contacts or wiring appear damaged, remove from service.
- The lamp should be fully seated when installed and firmly locked in place using the supplied lamp lock tool.
- NOTE: Metal halide lamp manufacturers suggest operating the lamp with the lamp support rod on the top side, as it produces a more stable arc.
- Lamps should be wiped with 99% alcohol and clean paper towels or lint free cloth after installation.
- Clean, close and lock the UV lens.
- Close and secure the lamp lock door.
- Ensure power supply matches lamp type, wattage, and voltage. The use of dimmers for tungsten lamps is strongly recommended.
- Bringing tungsten lamps to full power without pre-warming the bulb and fixture may break the U.V. lens.
- IMPORTANT: When LRX extended 6KSE lamps are not available a socket extender (Part number - G38-6X) will be required to compensate for the shorter L.C.L. of the standard 6KSE lamp.



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Installation of Fixtures on Truss of Manlifts

- This fixture must be mounted on a level truss.
- Installation structure must be designed and approved to safely carry all anticipated loads.
- It is the user's responsibility and obligation to determine and comply with all applicable laws and regulations.
- The installation and operation of this unit must be carried out by authorized and qualified personnel.
- Hanger bolts in hanger assembly must be installed. Both ratchet straps must be clipped onto their respective anchor point.
- Ratchet straps require a minimum of two wraps on the ratchet to ensure they remain tight.
- Always use approved safety cables secured to a point capable of supporting the total weight of the load.
- All power and data cables must have a strain relief attached.
- When fixtures are mounted near each other, care must be taken so that output energy from one fixture is not directed at another fixture, electrical cabling, supporting structure, etc.
- If cable rollers are required refer to "LRX Cable Roller" manual.
- If LRX truss is to be installed, ensure that load is centered and evenly applied to basket.
- Never use damaged or compromised trusses or equipment.
- Follow all lift manufactures guidelines for load/wind capacities and de-rating as required. Refer to the aerial equipment operator manuals & special supplement for "Authorized and Trained Set Lighting Technicians and Studio Grips".

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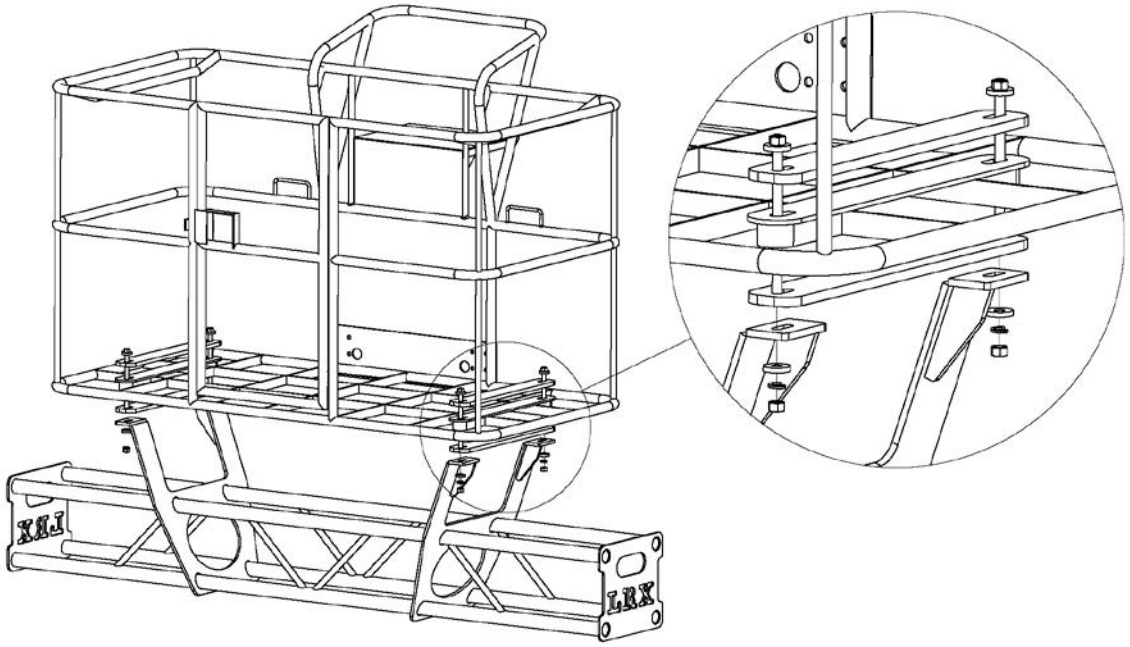
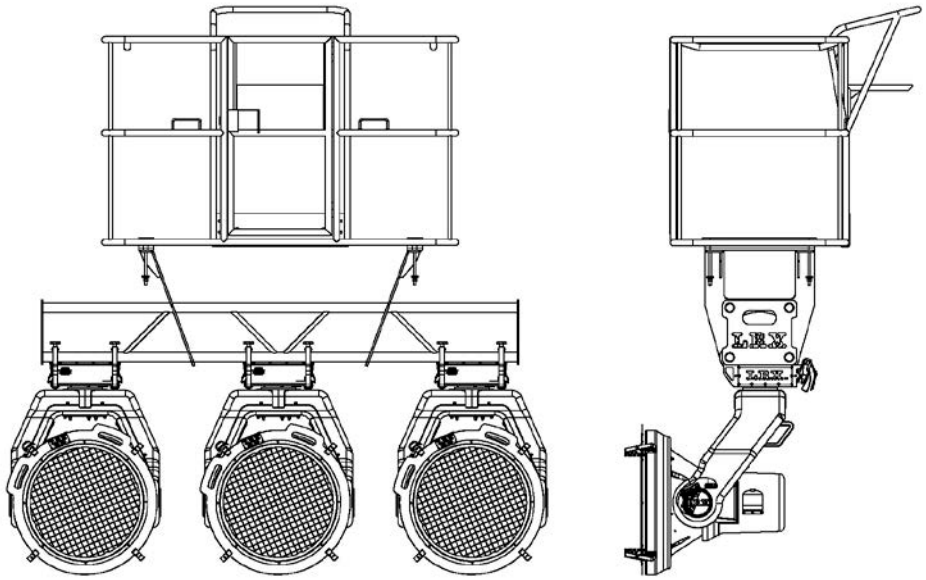
Installation requires truss plates to be placed inside of basket to spread the load, a minimum of two structural members must be captured. Fasten using four 1/2"X 4.00" bolts (or longer as required) with washers, lock washers and nuts - four places. Install additional truss plates below basket if required.





Center fixtures and ensure load is evenly applied.

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LRX Mantis

Electronic Setup:

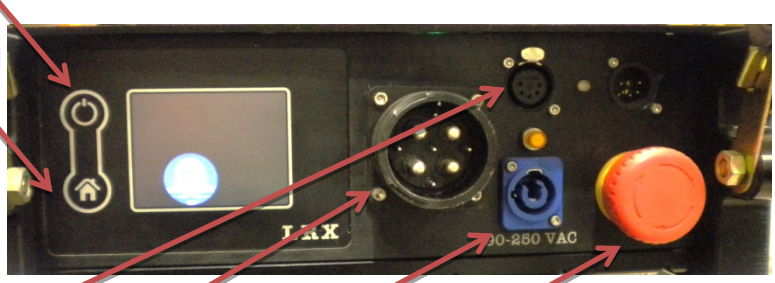
The LRX Single Mantis has 3 possible power sources. Batteries may be used to manouver and program the unit for assembly and dissasembly. The unit will shutdown in aproximately 3 minutes when there is no AC or Lamp power. Battery power can also be used to "fast cool" the lamp after use. The unit will maintain the last settings when mains power is restored. If the unit was running on battery power and shutoff automatically (or was turned off), the unit will turn on when exturnal power is re-supplied (house or lamp power).

If the Single Mantis shuts off (battery), it may be turned back on until the battery is exhausted. This would be several hours of intermitant use.

When the battery is running low, motor control is disabled to prolong the battery life.

POWER:
ON/OFF toggle
Hold for 10 Seconds for Hard-Reset.

Home Button Usage:
1) Escape from menu options.
2) Hold to automatically position the unit for transport



DMX / HAND CONTROL
Connect DMX in/out or Hand Controller.

HEAD CABLE CONNECTOR:

UNIVERSAL POWER INPUT:
90 – 250V AC Power

EMERGENCY STOP:
Press for a *motion* emergency
(Does not affect lamp !)

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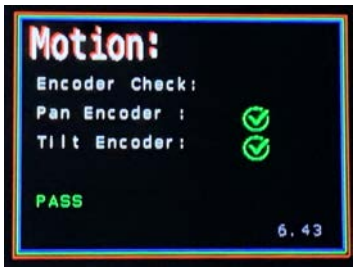
LRX Mantis

Start UP – Press the "ON/OFF ⏻" key once.

The system will check the encoders and prepare the unit for operation. The user does not have to press "OK or START" as the Mantis will pause for a short time, then continue running if no key is pressed.
In rare cases, the screen may appear white and blank, the Mantis will reset and restart withing about 15 seconds, it's best not to keep pressing the power button, as this will delay the startup sequence, and restart the timer.

If you are certain that there is a lockup problem, hold the power key for 10 seconds to inniate a hard reset. The unit will shut off, wait 5 seconds, then *touch* the power key once.

Boot Sequence:

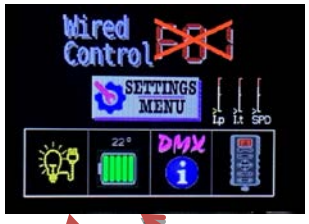


Normal Operating Display

The current MODE and DMX CHANNEL are displayed.
If valid DMX data is being received, the DMX channel will be green. If there is no DMX data, the number will be red and crossed out.

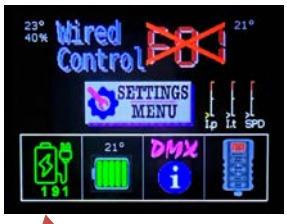
Information on AC and BATTERY LEVEL / CHARGING is also displayed.

House Power



Lamp Power

Battery State



Battery Power

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LRX Mantis

DMX Data, Profile & Current Mode

Press the "DMX" screen area to obtain information about the incoming DMX data, or press the Hand Control / Console for profile info mation.

DMX DATA

DMX PROFILE

! PAN & TILT operation is suspended when user in making touch screen selections.

E-STOP

The motor drives will not run if the E-STOP is active, periodic warnings will be displayed.
This does not affect the operation of the lamp.
(Switch the ballast / Dimmer off in the case of a lamp Emergency !)

AC Power

AC PRESENT

Power supplied by blue power-conn. "House Power"

Power supplied by the ballast through the special converter system.

AC FAILED

There is no usable mains power available.
If the lamp power is a dimmed line at less than 50%

E-STOP WARNING

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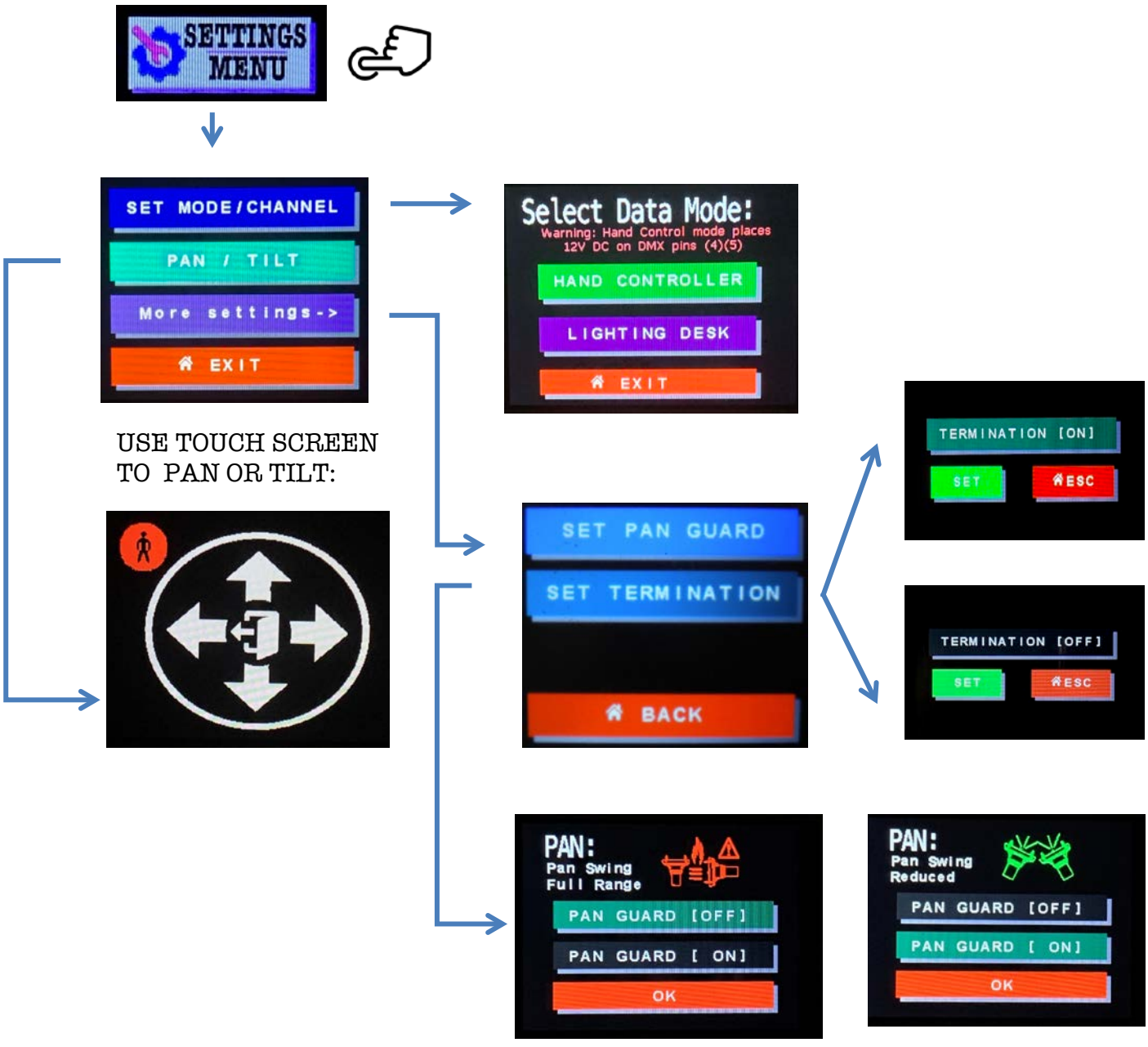
Menu Options:

PRESS : "MENU / SETTINGS"
To access the basic settings.



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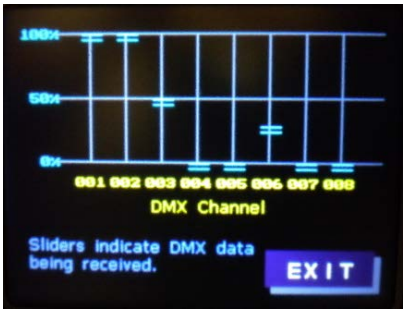
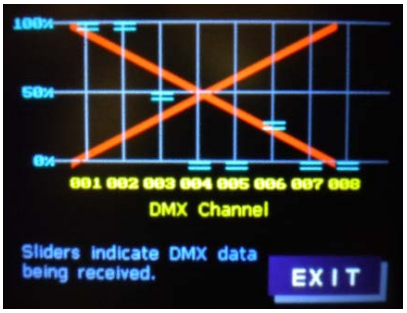
LRX Mantis

Setting the Hand Control (Wired Remote) channel number.

1) Manually: Select the required channel number and press the green Tick.
2) Automatically : Select the desired channel on the Hand Control.
The unit continually scans until a direction key on the remote is pressed. Press "YES" to choose that channel, or "SKIP" to retry.
When the channel has been chosen, a graphic is displayed outlining the controls; The graphic may be called up by pressing the Hand Control ICON on the screen (when in that mode).

Manual Channel Selection	Auto Learn	Need Information...



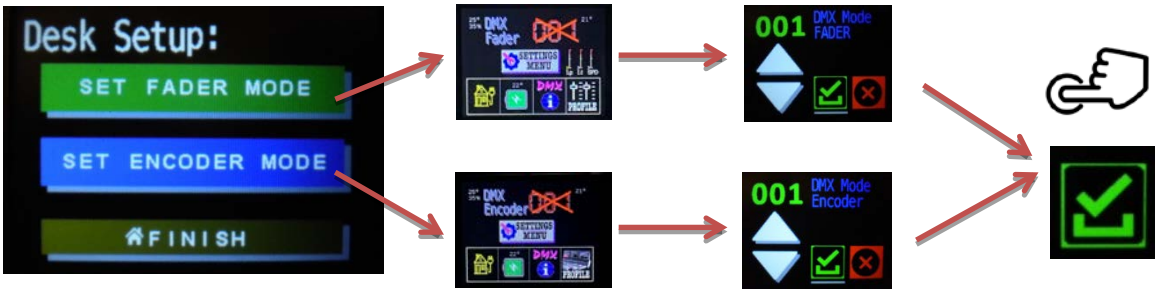


Check for the latest manual updates at
www.lrx-lighting.com
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

LRX Mantis

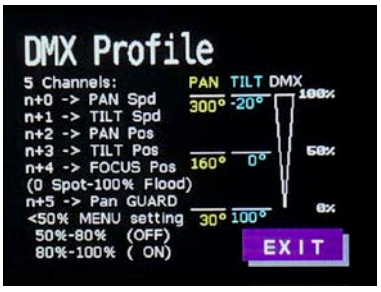
LIGHTING DESK MODE (Lighting Console)

If a lighting console is used to operate the vulture, there are two possible modes:



"Fader" Profile

"Encoder" Profile



DATA connection lost / faulty

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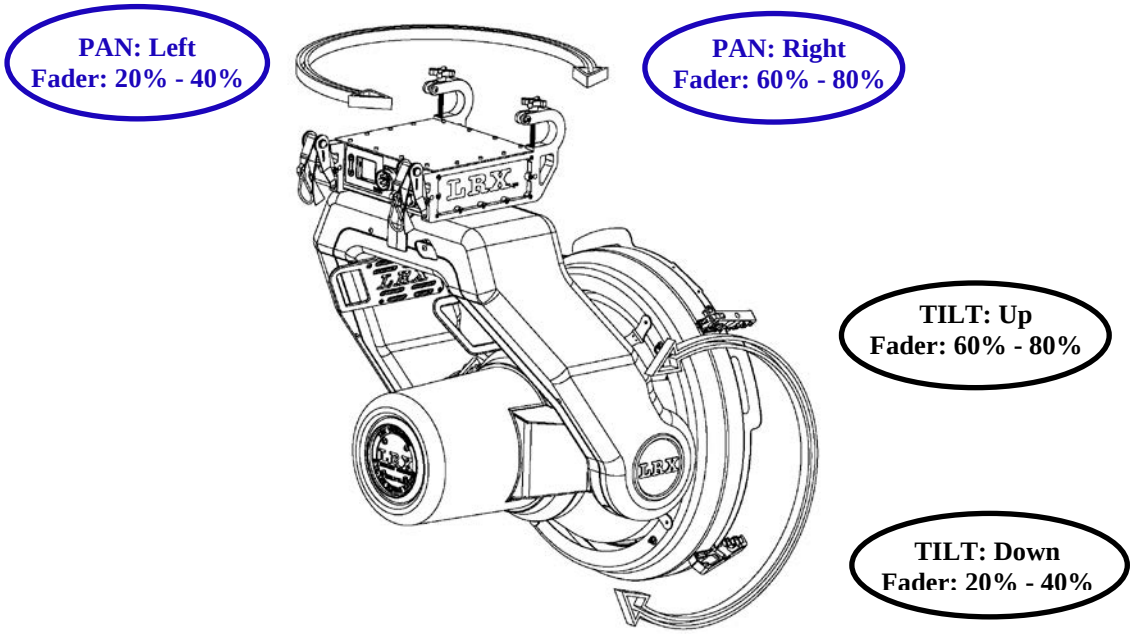
LRX Mantis

DMX PROFILES

FADER MODE

This mode allows for old school control of the MANTIS. When the console's DMX control is set to the 50% mark, no motion occurs. If the slider is moved to less than 40%, but greater than 20%, motion occurs in one direction – conversely, if the slider is moved to greater than 60%, but less than 80%, motion occurs in the opposite direction.



DMX Channel	Motion	DMX Value (20-40%)	DMX Value (60-80%)
DMX[n+0]	PAN	LEFT	RIGHT
DMX[n+1]	TILT	DOWN	UP
DMX[n+2]	FOCUS	FLOOD	SPOT
DMX[n+3]	AXIS SPEED	(0=Stop, 10 – 100% Sets Speed)	

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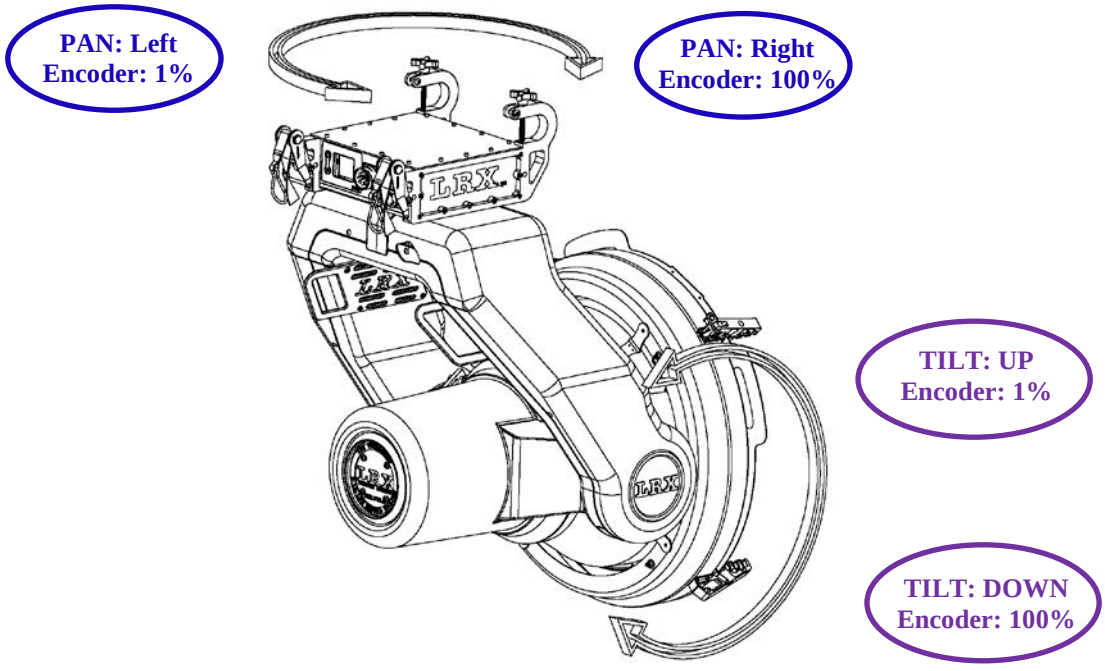
LRX Mantis

ENCODER MODE:

This mode works similar to moving light technology. The MANTIS will move to the absolute position it receives on the appropriate DMX channel. The PAN and TILT axis speeds are individually controllable. Generally, it is recommended to operate at 80-100% unless slow motion is required.

DMX Channel	Motion	DMX Value	Operation
DMX[n+0]	Speed PAN	10 - 100%	% Speed, 0% =STOP
DMX[n+1]	Speed TILT	10 - 100%	% Speed, 0% = STOP
(Recommended: Speed 80-100% unless you specifically require lower speed operation.)			
DMX[n+2]	Pan Position	1 (30 DEG)	100% (300 DEG)
		50%	Approximate Centre
DMX[n+3]	Tilt Position	1 (-30 DEG)	100% (150 DEG)
		21%	Horizontal
DMX[n+4]	Focus	0% =SPOT	100% = FLOOD
DMX[n+5]	PAN GUARD	< 50%	Use Menu Setting
		51 – 80%	Set OFF
		81 – 100%	Set ON

NOTE: Zero(0) on any channel = STOP.



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LRX Mantis

PAN GUARD:
When enabled, this feature reduces the limits on the PAN channel; it helps prevent adjacent MANTIS fixtures from accidentally pointing towards each other.

MOTION LOCK:
In the unlikely event that the Single jitters trying to maintain an accurate position during adverse conditions, such as strong winds, the unit can be forced into a stationary position by reducing the speed to zero – doing so locks the drive in the current position.

PARKING:

If the Home Key is briefly pressed, an advisory message will appear.

To Park the unit in the stow position, hold the HOME key down for several seconds – release the key when the display changes to "PARKING". (2 Beeps).

The unit may be parked using battery power if there is no AC supply available.

Procedure:

Press PARK or CANCEL to exit.

In the event of a collision, press the ESTOP and then Cancel. Reset the ESTOP. Move the obstacle, insert the hand control, and set the unit to Wired Hand Control Mode. Using the Hand Control, move the unit to an uncompromised position.

If the parking calibration is incorrect, use the touch screen motion option to center the yolk.

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LRX Mantis

Power Sources (On board systems)

There is a power hierarchy : House Power >> Lamp Power >> Battery Power

If the Mantis is operating from Battery power and the live house power is applied to the blue power-conn. the unit will switch to AC power. If the unit was already running from lamp power, it will switch to house power. In other words, house power takes precidence.

This independent dual supply system allows for true power redundancy.

If all power is removed, the system will run from battery for a few minutes before shutting down.

TROUBLE SHOOTING

Hold the power key for 10 Seconds.
Wait 5 seconds, briefly press the power key.

Unit turns on briefly, then shuts off.
(Battery is flat / disconnected & ESTOP is pressed.)

Encoder Fault – Reduced Functionality.
An encoder(s) is malfunctioning, operation by Hand Controller or fader mode.

Unsteady / no motion when DMX data is changed.

Check the incoming DMX data stream by selecting the DMX info monitor.
To access this mode, press the info Icon on the main screen to see a graphic of the DMX data received, check to see if you are receiving the correct channels and the data is steady.
NOTE: All motion is suspended while viewing DMX data.

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LRX™

WARNING DECAL

MANTIS SINGLE

INTENDED USE

This product is intended for professional applications ONLY. The fixture complies IP54 and must be used accordingly. Always follow the safety information provided in the manual. You are not allowed to modify the product.

WARNING DESCRIPTION

The following provides an explaination of the warning symbols found on the device.

READ THE MANUAL

Read the manual carefully before using, transporting or servicing the product. Refer to the LRX website www.lrx-lighting.com for the latest manual updates.

PINCH POINT

This fixture has rotating parts with pinch points. Fixture my move without warning. No personel within range of motion.

NOT FOR RESIDENTAL USE

Do not use in residence. The fixture is intended for professional use only. The fixture may only be operated by qualified professionals.

HEAVY LIFT

Heavy lift, minimum tho persons, the fixture weight is approximately 57 kg / 125 lbs.

ELECTRICAL SHOCK

Dangerous voltages are present when power is supplied to the fixture. Safe electrical and working practices must be observed.

NO SERVICABLE PARTS

Do not operate if the unit appears damaged. In case of malfunction, disconnect all power supplies, discontinue use and notify supplier. There are no servicable parts.

DISCONNECT POWER

Disconnect power before re-lamping or performing any service or maintenance work or when the product is not in use.

RISK OF EYE INJURY

Do not look directly into the light during operation.

HOT SURFACE

High energy light output will burn skin and ignite combustible materials. Do not operate in the proximity of materials that are adversely affected by heat or light.

OPTICAL RADIATION

This fixture emits optical radiation such as UV, visible radiation, IR during operation.

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