Source 4WRD

PAR and PARNel Fixture Bodies

Installation and User Manual

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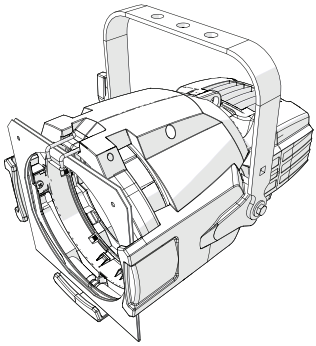
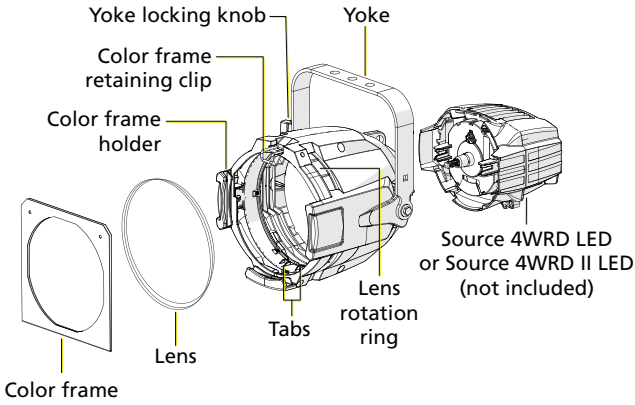
Introduction

Use the Source 4WRD LED or Source 4WRD II LED (supplied separately) with the Source 4WRD PAR or PARNel Fixture Body to create the Source 4WRD PAR or PARNel fixture. The fixture produces about 20% more flux than a 750W long-life Source Four PAR while consuming less power, and it can be line-dimmed, DMX-dimmed, or dimmed locally on the fixture.





Help from ETC Technical Services

If you are having difficulties and your problem is not addressed by this document, try the ETC support website at support.etcconnect.com or the main ETC website at etcconnect.com. If none of these resources are sufficient, contact ETC Technical Services directly at one of the offices identified below. Emergency service is available from all ETC offices outside of normal business hours.

When calling for help, take these steps first:

- Prepare a detailed description of the problem
- Go near the equipment for troubleshooting
- Find your notification number if you have called in previously

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Safety

The Source 4WRD fixture is intended for professional use only. Read the entire manual before using this equipment.

WARNING: This fixture must be installed by a qualified electrician in accordance with all national and local electrical and construction codes and regulations.

WARNING: Note the following safety warnings before use:

- **Do not mount the fixture on or near a flammable surface.**
- **Do not use this fixture with a damaged power lead. If the power lead (cord set) is damaged, it must be replaced.**
- **Mount and support the fixture only by the primary suspension holes in the yoke.**
- **Suspend the fixture from a suitable structure using only hardware rated for the weight of the fixture.**
- **In addition to primary suspension, attach a safety cable (ETC Model 400SC or other approved safety cable or device) to the fixture housing. An appropriate attachment point (hole) is provided in the protruding tab on the fixture housing.**
- **Disconnect the unit from power and DMX and allow the fixture to cool before removing or installing accessories, and before all cleaning and maintenance.**
- **Do not cover the fixture with material that is used for thermal insulation.**

AVERTISSEMENT : Prendre connaissance des avertissements de sécurité suivants avant toute utilisation :

- **Ne pas installer le projecteur sur ou à côté d'une surface inflammable.**
- **Ne pas utiliser ce projecteur avec un cordon d'alimentation endommagé. Si le cordon d'alimentation (câble) est abîmé, il doit être remplacé.**
- **Installer et accrocher le projecteur uniquement par les trous de fixation principaux de la lyre.**
- **Accrocher le projecteur à une structure convenable en utilisant seulement du matériel adapté au poids du projecteur.**
- **En plus de l'accroche principale, fixer une élingue de sécurité (modèle ETC 400SC ou autre câble/dispositif de sécurité certifié) au corps du projecteur. Un point d'accroche (trou) approprié est prévu dans la patte qui ressort du boîtier du projecteur.**
- **Déconnecter l'alimentation et le DMX et laisser le projecteur refroidir avant d'enlever ou installer l'optique découpe ou les autres adaptateurs, et avant tout nettoyage et entretien.**

WARNING: RISK OF FIRE OR ELECTRIC SHOCK! Installing the Source 4WRD LED retrofit kit requires knowledge of luminaire electrical systems. If you are not qualified, do not attempt installation. Contact a qualified electrician.

AVERTISSEMENT : RISQUE D'INCENDIE OU DE DÉCHARGE ÉLECTRIQUE! Installer le nécessaire de conversion Source 4WRD LED nécessite une connaissance des systèmes électriques de projecteurs. Si vous n'êtes pas qualifié, ne tentez pas l'installation. Faire appel à un électricien qualifié.

WARNING: RISK OF FIRE OR ELECTRIC SHOCK! Install this kit only onto luminaires that have the construction features and dimensions shown in the images in this document and where the input rating of the retrofit kit does not exceed the input rating of the luminaire.

AVERTISSEMENT : RISQUE D'INCENDIE OU DE DÉCHARGE ÉLECTRIQUE! N'installer ce kit que sur les projecteurs qui ont les caractéristiques de construction et les dimensions indiquées sur les images de ce document et où la puissance électrique nécessaire à la conversion n'excède pas la puissance maximale du projecteur.

WARNING: Note the following safety warnings before use:

- **The Source 4WRD LED is not user serviceable. Field modification of the Source 4WRD LED will void your ETC warranty.**
- **Do not use the Source 4WRD fixture below 5°C (41°F).**
- **Minimum storage temperature is 5°C (41°F). When the fixture has been stored or transported in cold temperatures, allow it to warm to room temperature for a minimum of 1 hour before applying power. Applying power to a cold fixture will cause damage to the fixture and void the ETC warranty.**
- **Do not use this fixture if a glass lens is deeply scratched or cracked. Damaged lenses must be replaced.**
- **To prevent wiring damage, or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.**
- **Use the Source 4WRD fixture in dry locations only, where humidity does not exceed 90 percent (non-condensing). These fixtures are not intended for outdoor use.**
- **Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.**

Note: *THE RETROFIT KIT IS ACCEPTABLE AS A COMPONENT OF A LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY AUTHORITIES HAVING JURISDICTION.*

Specifications

For full product specifications, see the Source 4WRD PAR or PARNel datasheet at etcconnect.com.

Electrical (120V)

- 114–125 VAC 60 Hz power input
- 150 W draw at full
- Recommended 2 fixtures per dimmed circuit (D20 module)
- Maximum of 14 fixtures per non-dimmed circuit (R20 module)
- If using in DMX mode: Connect fixture to relay, constant power, or dimmer with regulation off and parked at full

Typical Power Consumption

Mode	Power	Current
Idle: DMX Mode	1.2 W	.03 A
Idle: AC Mode	0 W	0 A
Full Intensity	150 W	1.26 A

Electrical (230V)

- 209–252 VAC 47–53 Hz power input
- 175 W draw at full
- Recommended 2 fixtures per dimmed circuit (ED15 module)
- Maximum of 6 fixtures per non-dimmed circuit (ER15AFR module)
- If using in DMX mode: Connect fixture to relay, constant power, or dimmer with regulation off and parked at full

Typical Power Consumption

Mode	Power	Current
Idle: DMX Mode	3.7 W	.05 A
Idle: AC Mode	0 W	0 A
Full Intensity	175 W	.75 A

Environment

- Ambient operating temperature: 5°C–50°C (41°F–122°F)
- Minimum storage temperature: 5°C (41°F)
- Maximum recommended ambient operating temperature: Ta=50°C (122°F)
- Maximum anticipated external surface temperature: Tmax=63°C (145°F) at Ta=50°C (122°F)
- External Temperature (steady state achieved) at 25°C (77°F) ambient: 38°C (100°F)

Weight

- Source 4WRD PAR fixture body only: 2.83 kg (6.25 lb)
- Assembled Source 4WRD PAR fixture: 4.53 kg (9.98 lb)
- Source 4WRD PARNel fixture body only: 3.49 kg (7.70 lb)
- Assembled Source 4WRD PARNel fixture: 5.18 kg (11.43 lb)

Install the Fixture

Wire the power connector (if needed)

If you ordered a Source 4WRD retrofit without a power connector, wire the connector in accordance with all national and local electrical codes:

- Brown = Live
- Blue = Neutral
- Green/Yellow = Protective earth

Install the Source 4WRD LED

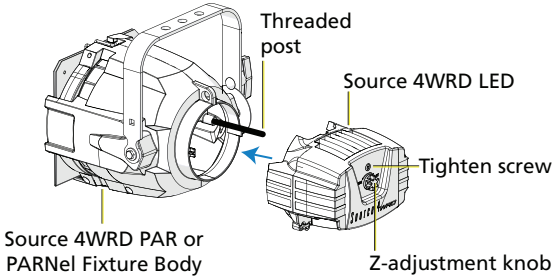
WARNING: RISK OF FIRE OR ELECTRIC SHOCK! Install the Source 4WRD LED only onto a Source 4WRD PAR or PARNel Fixture Body or Source Four ellipsoidal fixture body.

AVERTISSEMENT : Installer le kit Source 4WRD LED seulement sur un bloc lampe de projecteur PAR ou PARNel pour Source 4WRD ou sur un bloc lampe de projecteur ellipsoïdal Source Four.

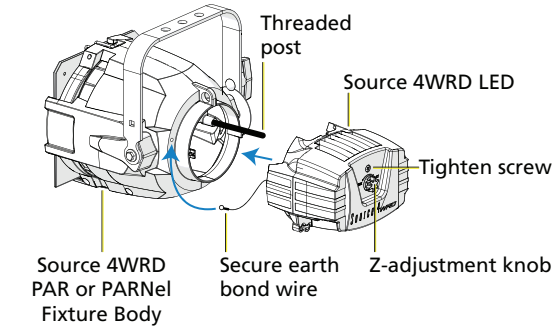
CAUTION: *Do not touch or clean LED optic domes with anything other than oil-free canned air.*

1. Use oil-free canned air to clean the LED domes before you install the retrofit. Do not touch the LED domes.
2. With the fixture resting securely on a flat surface, gently slide the Source 4WRD LED onto the Source 4WRD PAR or PARNel Fixture Body and threaded post while guiding the LED tower into the lamp housing hole, as shown in the images that follow. Take care to prevent contact between the LEDs and the reflector. For the 230 V (CE) Source 4WRD LED, secure the earth bond wire to the Source 4WRD PAR or PARNel Fixture Body using the provided screw and washer.

120 V (UL)



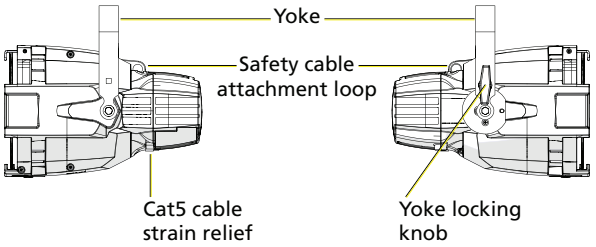
230 V (CE)



3. Use a #2 Phillips screwdriver to tighten the screw located on the back end of the Source 4WRD LED, directly above the Z-adjustment knob.
4. Pull gently to verify secure attachment.
5. The Source 4WRD PAR and PARNel optics are optimized for PEAK focus. Turn the Z-adjustment knob toward PEAK until the knob becomes loose, and then tighten the Z-adjustment knob an additional quarter turn. This sets the LED light source into the appropriate position within the Source 4WRD PAR or PARNel fixture.

Note: *When used as part of a Source 4WRD retrofit on a Source Four ellipsoidal fixture, the Z-adjustment knob adjusts the field of the LED light for specific applications. On the Source 4WRD PAR or PARNel fixture, however, no additional adjustments are needed after you loosen the Z-adjustment knob as described above.*

Attach C-clamp and Safety Cable



The C-clamp attaches the fixture to the mounting pipe and allows you to adjust the position of the mounted fixture. ETC recommends using 1.5 in schedule 40 pipe.

1. Tightly fasten the C-clamp to the yoke with the provided yoke bolt and lock washer.
2. Place the C-clamp on mounting pipe, and then tighten the pipe bolt to secure it.
3. Loosen the C-clamp pan screw and rotate the yoke to the desired position.
4. Tighten the pan screw to lock the fixture.
5. Connect the safety cable.
6. Tighten the C-clamp pipe bolt to 15–20 ft-lb (20–27 Nm), approximately finger tight plus up to one-quarter turn.

CAUTION: *Do not exceed 25 ft-lb (33 Nm) while tightening the C-clamp pipe bolt. Do not use excessive force.*

7. Tighten the yoke pivot bolt to 5–10 ft-lb (6–7 Nm), approximately finger tight plus up to one-eighth turn.

CAUTION: *Do not exceed 15 ft-lb (20 Nm) while tightening the yoke pivot bolt. Do not use excessive force.*

Connect Cables

You can control the fixture using AC power or DMX. Configure the fixture to use the appropriate control method on the user interface. See *Configure the Fixture on page 14*.

WARNING: Do not use or store the Source 4WRD fixture below 5°C (41°F). When the fixture has been stored or transported in cold temperatures, allow it to warm to room temperature for a minimum of 1 hour before applying power. Applying power to a cold fixture will cause damage to the fixture and void ETC warranty.

Note: *For optimum performance, make sure that your dimmer is out of regulated mode. See Line-dimming on the next page for recommended dimmer settings.*

Note: *Connecting both power and data from a SmartBar 1 to a Source 4WRD fixture may cause flickering.*

1. If you are using DMX control: Connect one RJ45 data cable for data-in and one for data-thru, as needed. Use the strain relief at the bottom of the fixture to support the data cables.
   - To order an RJ45-to-female XLR adapter, use ETC part number W6538.
   - To order an RJ45-to-male XLR adapter, use ETC part number W6539.
2. If you are using DMX control and this is the last fixture in the line, terminate the fixture with a 120 Ohm resistor. Please contact your ETC customer service representative to purchase ETC part number N4086. See *Help from ETC Technical Services on page 2*.
3. Connect the fixture to the power source.

DMX Dimming

When dimming via DMX, consider the following:

- When using DMX over Cat5, use Cat5e or better.
- Cable distance must not exceed 300 m (1000 ft).
- Up to 32 fixtures can be connected together into a daisy chain.
- The Source 4WRD fixture cannot be controlled via Ethernet protocols and should not be directly connected to an Ethernet system.
- When DMX data is lost, the LED emitters turn off.
- The fixture uses a single DMX channel for intensity control.

DMX pinout

Pin	Description
1	DMX +
2	DMX -
3	Not connected
4	Not connected

Pin	Description
5	Not connected
6	Not connected
7	Common (shield)
8	Not connected

Line-dimming

When line-dimming the fixture, set the parameters as shown in the following tables to ensure that the dimmer is out of regulated mode. (You may need to adjust dimmer settings for optimal fixture control).

In addition to the recommended settings in the following tables, you may need to increase the SCR Off Time from the default setting. Contact ETC for assistance in changing the SCR Off Time, or any other CEM classic, CEM+, or CEM3 settings. See *Help from ETC Technical Services on page 2*.

For the most current information on additional dimmer performance testing for both ETC and non-ETC dimmers, please visit the ETC website:

https://support.etcconnect.com/ETC/Fixtures/Source_Four/Source_4WRD%2F%2FSource_4WRD_PAR/Dimmer_Settings_for_Use_with_Source_4WRD

Note: *When line-dimming the fixture, performance may vary based on the control settings of the dimmer. For this reason, ETC recommends using line-dimming for level-setting or for architectural dimming. ETC recommends testing the Source 4WRD fixture on all existing dimmers that you want to use.*

Use DMX mode when high-performance, live, dynamic dimming is required.

CEM+ and CEM3

Parameter	CEM+	CEM3
Curve	Mod Square	Mod Square
Threshold	1%	1%
Min Scale	120 V Retrofit: 6 V 230 V Retrofit: 12 V	1%
Max Scale	120 V Retrofit: 140 V 230 V Retrofit: 280 V	100%
Regulation	OFF	OFF
Preheat	Disabled	Disabled
DC Prevent	OFF	OFF
Inrush Prevent	OFF	OFF
Scale Load	100	100

CEM Classic v2.x

Parameter	Value
Mode	Normal
Boost	117

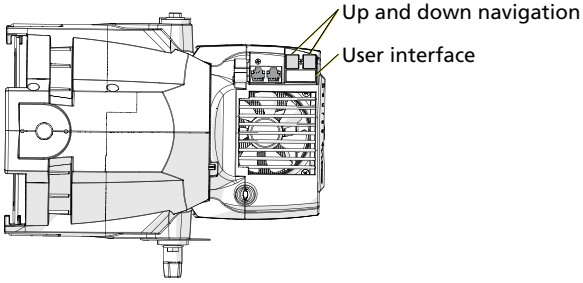
CEM Classic v3.x

Parameter	Value
Mode	Normal
Curve	Mod-Square
Scale	140
Threshold	Normal

Configure the Fixture

The two-button, seven-segment display shows the DMX address, AC mode, or the manually-set level. Use the up and down navigation buttons to configure the fixture.

- **Set a DMX address:** Use the up and down arrows to navigate to the desired DMX address number (1–512).
- **Set the fixture to use line-dimming (AC mode):** Use the down arrow to navigate one number below DMX address 1. The display will read **AC**.
- **Manually set a level:** Use the down arrow to navigate one number below **AC**. The display will read **L_FL** (Level = Full). Use the down arrow to decrease the level to a percentage of full (**L_99** = 99%, **L_98** = 98%, etc.). You can set levels from 0%–100% (full).



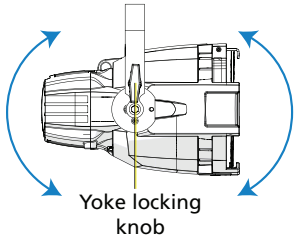
RDM Values

Parameter	RDM PID	Value
Manufacturer ID	0x6574	Electronic Theatre Controls
Model ID (120 V)	0x0800	ETC Source 4WRD (120 V)
Model ID (230 V)	0x0801	ETC Source 4WRD (230 V)
DMX Start Address	0x00F0	Range = 1–512
Personality ID	0x00E0	1 = DMX 2 = AC Dimming 3 = Local Control

Set Up the Fixture

Set the Angle within the Yoke

1. Loosen the yoke locking knob. **Do not** remove the knob.
2. Tilt the fixture to the desired position.
3. Tighten the yoke locking knob to secure in position.



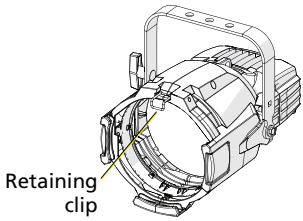
Use the Accessory Holder

The accessory holder is equipped with a spring-loaded retaining clip that prevents color frames and accessories from falling out.

WARNING: Make sure all color frame accessories are locked in position with the retaining clip before hanging the fixture.

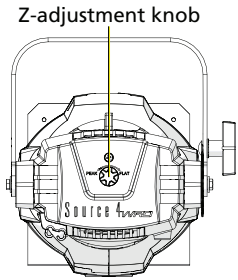
AVERTISSEMENT : S'assurer que tous les porte-filtres sont verrouillés en place à l'aide du verrouillage de la cassette avant de suspendre le projecteur.

1. Release the retaining clip by pushing it sideways while gently pulling backwards.
2. Insert the color frame or accessory.
3. Lock the retaining clip by pushing sideways while gently pushing forward.



Loosen the Z-adjustment Knob

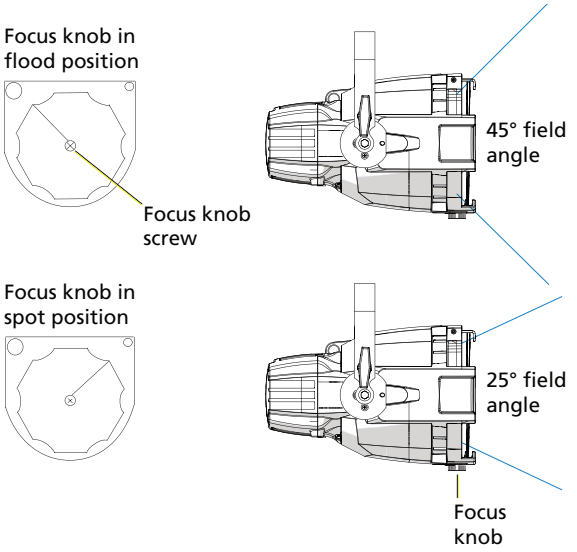
The Source 4WRD PAR and PARNel optics are optimized for PEAK focus. Turn the Z-adjustment knob toward PEAK until the knob becomes loose, and then tighten the Z-adjustment knob an additional quarter turn. This sets the LED light source into the appropriate position within the Source 4WRD PAR or PARNel fixture. After the knob is loosened, no additional adjustments are needed. See *Install the Source 4WRD LED on page 8* for more information.



Adjust the Focus Knob (PARNel Fixtures Only)

CAUTION: *The focus knob does not rotate 360°. Do not attempt to exceed the limit of the knob.*

To adjust focus knob tension on a PARNel lens, loosen or tighten the focus knob screw, which is located on the bottom of the lens.



Troubleshoot the Source 4WRD

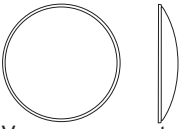
The following error codes may be seen on the Source 4WRD user interface. For more troubleshooting assistance, see *Help from ETC Technical Services on page 2*.

- **OtP** (OTP) indicates that the fixture has gone into over-temperature protection. Allow the fixture to cool, and then reset the fixture to clear the code.
  - **For DMX mode:** Return the DMX control to 0.
  - **For AC mode:** Remove the fixture from power for five seconds and then restore power.
- **UtP** (UTP) indicates that the fixture has gone into under-temperature protection. Allow the fixture to warm to a minimum of 5°C (41°F).
- **Flashing DMX address** indicates loss of DMX.
- **Dark screen** indicates loss of power or fixture time-out. In the event of time-out, press any button to wake the user interface. If this fails to wake the user interface, troubleshoot the power loss:
  - Verify that all cables are fully seated and that power is applied to the fixture.
  - If a working Source 4WRD LED is available, exchange the Source 4WRD LED with the working Source 4WRD LED to further isolate any issues.
  - If the fixture still does not respond, contact ETC Technical Services for additional troubleshooting steps or to arrange a repair. See *Help from ETC Technical Services on page 2* for contact information.

About PAR Lenses

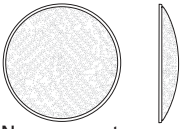
The Source 4WRD PAR Fixture Body includes a flat lens, but the fixture can use the same lenses as the Source Four PAR. Identify the lens type, or beam spread, by the lens texture.

VNSP



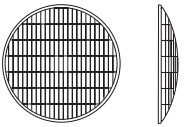
Very narrow spot
Clear glass
15° Round beam shape

NSP



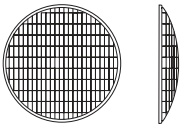
Narrow spot
Stipple glass (slight diffuse texture)
19° Round beam shape

MFL



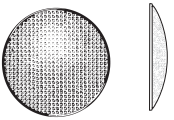
Medium flood
Fewer facets, sized 6 x 22mm
21° x 34° Oblong beam shape

WFL



Wide flood
Many facets, sized 6 x 12mm
30° x 51° Oblong beam shape

XWFL (Optional)



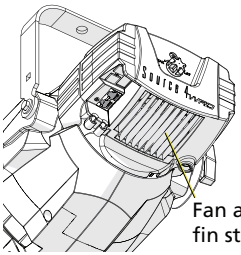
Extra-wide, or buxom, lens
Molded, borosilicate lens, multi-faceted
60° Round beam shape

Clean and Maintain the Fixture

Clean the Fixture

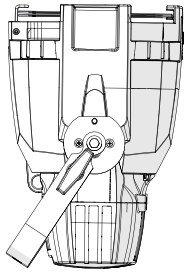
CAUTION: *Do not touch or clean LED optic domes with anything other than oil-free canned air.*

- Use oil-free canned air to clean the LED domes prior to installation and prior to storage.
- Use oil-free canned air to clean the fan and fin stack as part of regular fixture maintenance.



Store the Retrofit

- When not installed on a fixture, store the Source 4WRD LED in its original packaging or in a dust-resistant plastic bag.
- Store the Source 4WRD PAR or PARNel fixture at temperatures of 5°C (41°F) or higher.
- If you must store the fixture below 5°C (41°F), make sure it is in an upright position as shown to the right. Allow it to warm to room temperature for a minimum of one hour before applying power.



Store fixture facing up

Note: *After shipping or storing the Source 4WRD LED below 5°C (41°F), visually inspect the unit to ensure the low temperatures have not caused cracking of the LED array.*

Clean the Lenses

WARNING: Do not use ammonia-based or other harsh commercial cleaners. Clean lens and reflector only as directed.

Commercially available glass cleaning agents should be avoided as they may contain ammonia, other harsh chemical detergents or abrasive agents. These cleaners may damage the glass surface and the Anti-Reflective coatings. Do not immerse or soak the glass in any cleaning solution.

Replace lenses if they contain visible damage (cracks or deep scratches) that may impair their effectiveness.

Remove any dust with a blast of oil-free air or wipe with a clean, lint-free cloth. You can use isopropyl alcohol, distilled water, or a 50%-50% mixture of each to clean the glass surface.

Change a PAR Lens

CAUTION: *Never operate the fixture without a lens in place.*

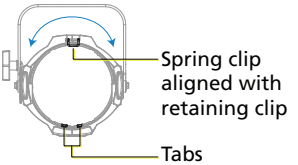
WARNING: Unplug the fixture and allow it to cool before you change a lens.

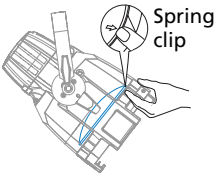
AVERTISSEMENT : Débrancher le projecteur et le laisser refroidir avant de remplacer une lentille.

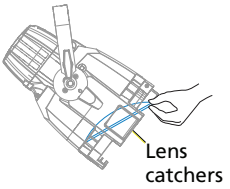
Replace lenses if they become cracked or badly scratched.

Remove a PAR Lens

1. Place the fixture on a flat, stable work surface. Do not remove or install lenses with the fixture hanging.
2. Rotate the lens rotation ring so that the spring clip is at the top of the unit, aligned with the color frame retaining clip. See figure at right.
3. Tilt the front of the fixture down at least 45°.
4. Press the spring clip with your finger to release the lens. See figure at right.
5. Allow the lens to drop forward from under the clip.
6. When the lens drops, remove your finger, allowing the lens to slide forward until it rests on the lens catchers. See figure at right.
7. Carefully remove the lens.





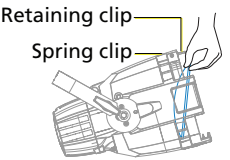


Install a PAR Lens

1. Position the fixture with the front of the unit (lens side) facing you, and tilted slightly upward.
2. Hold the lens by the edge and position it so that the convex side faces the rear of the fixture.

Note: *Installing the lens with the convex side out will not impair the optics, but it will make removing the lens difficult.*

3. From the top of the fixture, slide the lens behind the lens catchers and position it behind the tabs on the bottom of the lens rotator ring. Gently push the top of the lens inward until it snaps behind the clip.



Change a Front PARNel Lens

CAUTION: *Never operate the fixture without a lens in place.*

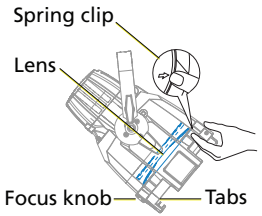
WARNING: Unplug the fixture and allow it to cool before you change a lens.

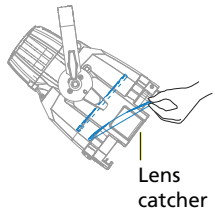
AVERTISSEMENT : Débrancher le projecteur et le laisser refroidir avant de remplacer une lentille.

Replace lenses if they become cracked or badly scratched.

Remove a PARNel Front Lens

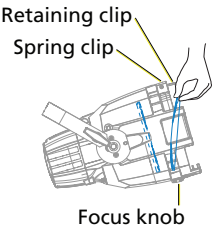
1. Place the fixture on a flat, stable work surface. Do not remove or install lenses with fixture hanging.
2. Rotate the focus knob to the full spot position.
3. Tilt the front of the fixture down at least 45°. See figure at right.
4. Press the spring clip with your finger to release the lens.
5. Allow the lens to drop forward from under the clip.
6. When the lens drops, remove your finger, allowing the lens to slide forward until it rests on the lens catchers. See figure at right.
7. Carefully remove the lens.





Install a PARNel Front Lens

1. Position the fixture with the front of the unit (lens side) facing you, and tilted slightly upward.
2. Rotate the focus knob to the full spot position.
3. Hold the lens by the edge and position it so that the convex side faces the rear of the fixture.

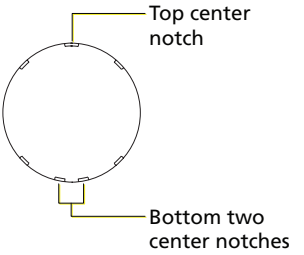


Note: *Installing the front lens with the contoured side out will not impair the optics, but it will make removing the lens difficult.*

4. From the top of the fixture, slide the lens behind the lens catchers and position it behind the tabs on the bottom of the lens rotator ring.
5. Gently push the top of the lens inward until it snaps behind the spring clip.

Position a PARNel Front Lens

1. There are seven notches cut into the stippled side of the lens. Position the lens so that the cluster of three notches is on top. The center notch of the cluster aligns with the spring clip on the lens retainer ring.
2. The bottom of the lens has a cluster of four notches. Place the two center notches behind the tabs at the bottom of the lens rotator ring.



Clean the Reflector

WARNING: Unplug the fixture and allow it to cool before you clean the reflector.

AVERTISSEMENT : Débrancher le projecteur et le laisser refroidir avant de nettoyer le réflecteur.

To quickly clean the reflector, remove the lens (see *Remove a PAR Lens on page 20* or *Remove a PARNel Front Lens on page 21*) and clean the dust from the reflector with a blast of oil-free air. You may also wipe the reflector with a clean lint-free cloth. If either method is not sufficient, follow these steps.

1. Remove the lens. See *Remove a PAR Lens on page 20* or *Remove a PARNel Front Lens on page 21*.
2. To protect the Source 4WRD LED during cleaning, remove the LED housing by loosening the attachment screw and pulling the LED housing straight out. See image on *page 1*.
3. Remove any dust with a blast of oil-free air or wipe with a clean, lint-free cloth. You can use isopropyl alcohol, distilled water, or a 50%-50% mixture of each to clean the glass surface.
4. Replace the lens. See *Install a PAR Lens on page 20* or *Install a PARNel Front Lens on the previous page*.
5. Reinstall the Source 4WRD LED and tighten the attachment screw. See *Install the Source 4WRD LED on page 8*.

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