



Source 4WRD™

PAR and PARNeI® Fixture Bodies

Installation and User Manual

Version 1.1.0

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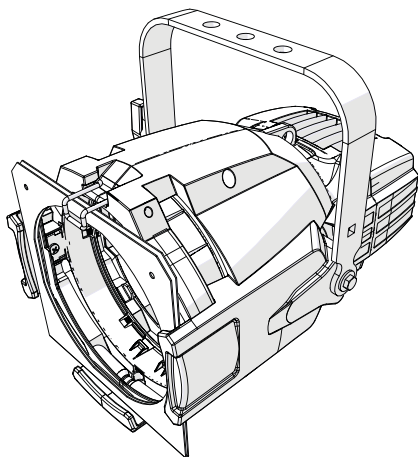
Table of Contents

Introduction	1
Safety	2
Specifications	4
Sensor dimmer settings	5
Color rendering and quality	6
Contacting ETC	7
Fixture installation	8
Install Source 4WRD LED	8
Attach C-clamp and safety cable	9
Connect cables	10
DMX pinout	11
User interface	11
Error codes	11
Set up the fixture	12
Set the angle within the yoke	12
Use the color frame	12
Loosen the Z-adjustment knob	12
Adjust the focus knob (PARNel fixtures only)	13
PAR lenses	14
Change a PAR lens	15
PARNel lenses	16
Change front PARNel lens	16

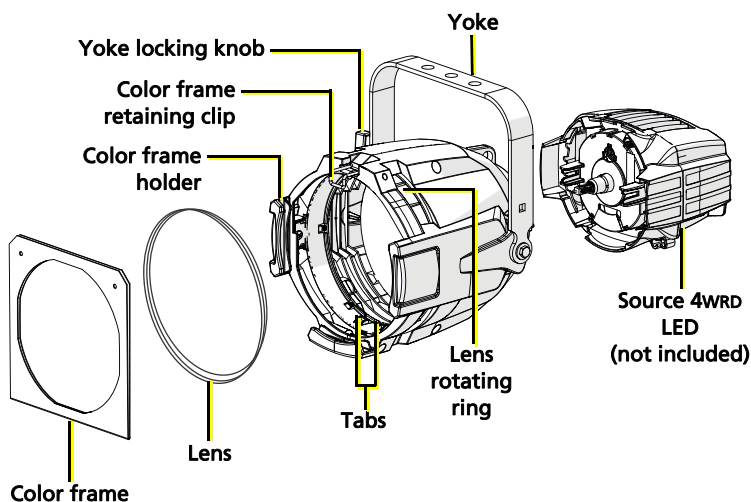
Cleaning and maintenance.	18
Clean the fixture.	18
Store the fixture	18
Clean the lenses	19
Clean the reflector	19

Introduction

Congratulations on your purchase of the ETC Source 4WRD PAR or PARNel Fixture Body. Use the Source 4WRD 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 only 155W of power, and it can be line-dimmed as well as DMX-dimmed.



WARNING: The Source 4WRD PAR or PARNel fixture is not user serviceable. Field modification of the fixture will void your ETC warranty.



Safety

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



WARNING: Note the following safety warnings before use:

- Do not mount the fixture on or near a flammable surface.
 - Do not use the 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 ETC warranty.
 - Do not use this fixture with a damaged power lead. If the power lead (cord set) is damaged, it must be replaced.
 - Do not use this fixture if 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 fixture in dry locations only, where humidity does not exceed 90 percent (non-condensing). These fixtures are not intended for outdoor use.
 - 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 for performing all cleaning and maintenance.
-



WARNING: RISK OF FIRE OR ELECTRIC SHOCK! LED Retrofit Kit installation requires knowledge of luminaire electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.



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



WARNING: To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.

Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.

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



- Note:**
- *Maximum recommended ambient operating temperature: $T_a=50^{\circ}\text{C}$ (122°F)*
 - *Maximum anticipated external surface temperature: $T_{max}=63^{\circ}\text{C}$ (145°F) at $T_a=50^{\circ}\text{C}$ (122°F)*
 - *External Temperature (steady state achieved) at 25°C (77°F) ambient: 38°C (100°F)*
-

Specifications

Typical Power Consumption	
Idle Power / Current	DMX Mode: 1.2W/.046A; AC Mode: 0W
Full Intensity Power / Current	155.7W/1.35A

Physical	• Rugged die-cast aluminum construction • Advanced thermal management systems for long LED life • Ambient operating temperature: 5°–40°C (41°F–104°F) • Minimum storage temperature: 5°C (41°F) • Weight: - PAR fixture body only: 6.25 lb (2.83 kg) - Assembled PAR fixture: 9.95 lb (4.51 kg) - PARNel fixture body only: 7.70 lb (3.49 kg) - Assembled PARNel fixture: 11.40 lb (5.17 kg)
Electrical	• 114–125VAC 60Hz power input • 155W draw at full (182W theoretical max. draw) • Recommended two (2) fixtures per dimmed circuit (D20 module) • Max 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
LEDs	• 4 CREE LED modules • 30,000 hour estimated L70 rating (life-test in progress, results pending)
Optical	• Includes a flat lens • Compatible with all ETC Source Four PAR lenses including Very Narrow Spot (VNSP), Narrow Spot (NSP), Medium Flood (MFL), Wide Flood (WFL), and PARNel Zoom lens
Control	• DMX512-A compliant • DMX in and thru via two RJ45 connectors • AC power for line-dimmed operation • Simple seven-segment display, two-button user interface



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

Sensor dimmer settings

The Source 4WRD fixture can be controlled from either a DMX source or from an existing dimmer for level control.

When powering a fixture with a CEM classic, CEM+, or CEM3 for DMX dimming or AC level setting, set the parameters as shown below to ensure that the dimmer is out of regulated mode.

The following tables apply to ETC Sensor® control modules including CEM, CEM+, and CEM3.



Note: *You may need to adjust dimmer settings for optimal fixture control.*



Note: *In CEM+, set Max Scale to 140V to guarantee that regulation is off.*

CEM+ and CEM3

Parameter	Value
Curve	Mod Square
Threshold	1%
Min Scale	6V
Max Scale	140V
Regulation	OFF
Preheat	Disabled
DC Prevent	OFF
Inrush Protect	OFF
Scale Load	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



Note: *With AC dimming (line-dimmed) mode, performance may vary based on the control settings of the dimmer used. For this reason, ETC recommends using AC dimming for level-setting or for architectural quality dimming situations. ETC recommends testing the Source 4WRD fixture on all existing dimmers you wish to use. Use DMX mode when high-performance, live, dynamic dimming is required.*

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.

For the most current information on additional dimmer performance testing for both ETC and non-ETC dimmers, please visit the ETC website: etconnect.com/Support/Articles/Dimmer-Settings-for-Use-with-Source-4WRD.aspx

Color rendering and quality

Source 4WRD fixtures are evaluated for Color Rendering Index (CRI) and Color Quality Scale (CQS) performance using measured output spectrum. These numbers may fluctuate slightly from fixture to fixture. This is a normal characteristic of white LEDs, and this kind of variation is highly unlikely to be apparent in most applications.

Fixture	CRI	CQS	Color Fidelity	Duv
Source 4WRD PAR or PARNeI (80 CRI) at 3000K	≥80	80	80	0.001
Source 4WRD PAR or PARNeI Gallery (90 CRI) at 3000K	≥90	90	90	0.001

Contacting ETC

If you are having difficulties, your most convenient resources are the references given in this user manual. To search more widely, try the ETC website at etcconnect.com. If none of these resources is 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, please have the following information handy:

- Product model
- Dimmer manufacturer and installation type
- Other components in your system (Unison®, other consoles, etc.)

Americas

ETC, Inc.
Technical Services Department
3031 Pleasant View Road
Middleton, WI 53562
800-775-4382 (USA, toll-free)
+1-608 831-4116
service@etcconnect.com

United Kingdom

ETC Ltd
Technical Services Department
26-28 Victoria Industrial Estate
Victoria Road,
London W3 6UU England
+44 (0)20 8896 1000
service@etceurope.com

Asia

ETC Asia
Technical Services Department
Room 1801, 18/F
Tower 1, Phase 1 Enterprise Square
9 Sheung Yuet Road
Kowloon Bay, Kowloon, Hong Kong
+852 2799 1220
service@etcasia.com

Germany

ETC GmbH
Technical Services Department
Ohmstrasse 3
83607 Holzkirchen, Germany
+49 (80 24) 47 00-0
techserv-hoki@etcconnect.com

Fixture installation

Install Source 4WRD LED

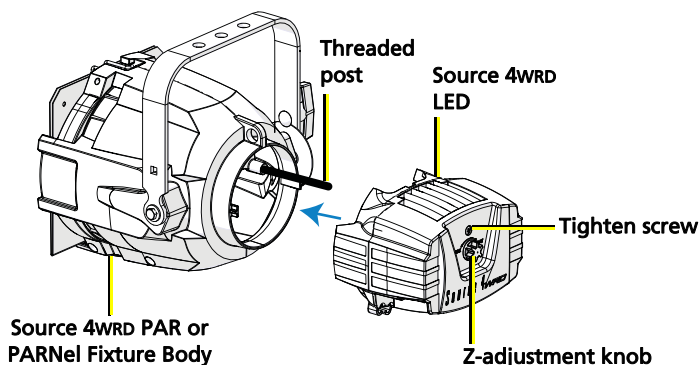


WARNING: RISK OF FIRE OR ELECTRIC SHOCK: Install the Source 4WRD LED only onto a Source 4WRD PAR or PARNel Fixture Body or Source Four ellipsoidal fixture body.



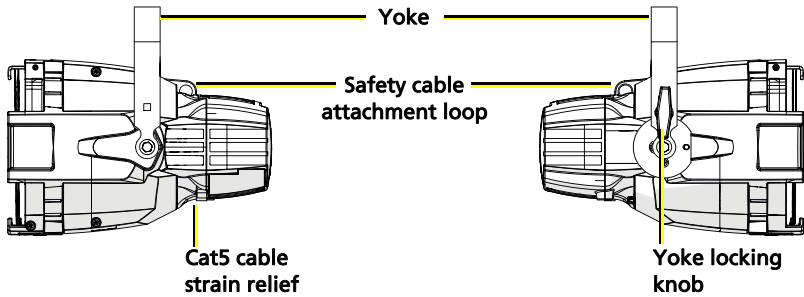
CAUTION: *Do not touch LED optic domes. Do not clean LED optic domes with anything other than oil-free canned air.*

- 1: Use oil-free canned air to clean the LED domes prior to installation.
- 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 below. Take care to prevent contact between the LEDs and the reflector.
- 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: Turn the Z-adjustment knob toward PEAK until the knob is loosened. 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.*

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" 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, 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 C-clamp pipe bolt to 15–20 ft lbs (20–27 Nm), approximately finger tight plus up to one-quarter turn.



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

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



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

Connect cables

The fixture can be controlled by AC power or DMX. The fixture responds to the control method selected using the user interface. For more information, see [User interface](#) on [page 11](#).



Note: *Make sure your dimmer is out of regulated mode for optimum performance. See [Sensor dimmer settings](#) on [page 5](#) for recommended dimmer settings.*



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



WARNING: Do not use or store the Source 4WRD PAR or PARNeI 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.

- 1: If using DMX control: Connect one RJ45 data cable for data-in and one for data-thru, as needed.
 - To order RJ45 to female XLR adapter, use ETC part number W6538.
 - To order RJ45 to male XLR adapter, use ETC part number W6539.
 - 2: When connecting data, consider the following:
 - Two strain reliefs are built in to the bottom of the fixture and should be used to support the fixture's data cable.
 - When using DMX over Cat5, use Cat5e or better. Cable distance must not exceed 300 m (1000 ft).
 - The fixture cannot be controlled via network protocols and should not be connected to a system network.
 - Up to 32 fixtures can be connected together into a daisy chain.
-



Note: *The fixture is not self-terminating. You must terminate the last fixture in line with a 120 Ohm resistor. Please contact your ETC customer service representative to purchase ETC part number N4086.*

- 3: Connect fixture to power source.

DMX pinout

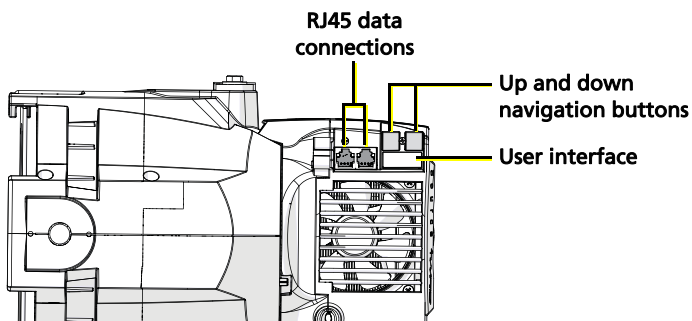
Pin	Description
1	DMX +
2	DMX -
3	Not Connected
4	Not Connected

Pin	Description
5	Not Connected
6	Not Connected
7	Iso Common (Shield)
8	Not Connected

User interface

The two-button, seven-segment display shows the DMX address, AC mode, or the manually-set level.

- **Set a DMX address:** Use the up and down arrows to navigate to the desired DMX address number (1–512).
- **Set the fixture to 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).



Error codes

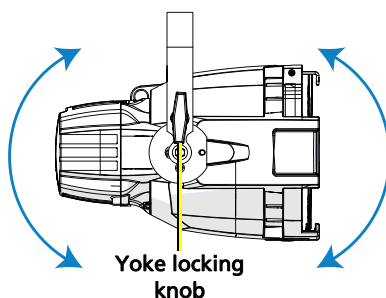
The following error codes may be seen on the fixture user interface.

- **OTP** indicates the fixture has gone into over-temperature protection. 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** indicates 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.

Set up the fixture

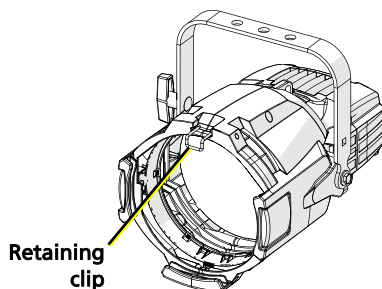
Set the angle within the yoke

- 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 color frame

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

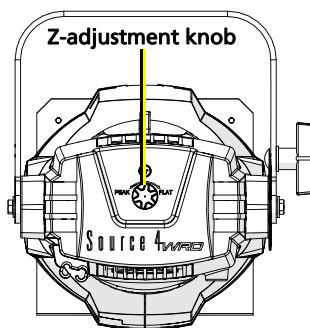


WARNING: Make sure all color frame accessories are locked in position with the retaining clip before hanging the fixture.

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

Loosen the Z-adjustment knob

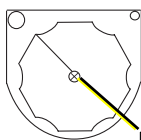
Turn the Z-adjustment knob toward PEAK until the knob is loosened. This sets the LED light source into the appropriate position within the Source 4WRD PAR or PARNeI fixture. After the knob is loosened, no additional adjustments are needed. See [Install Source 4WRD LED](#) on [page 8](#) for more information.



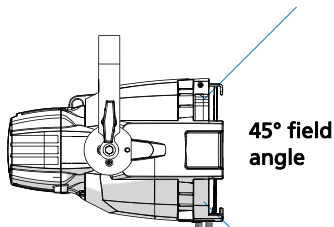
Adjust the focus knob (PARNel fixtures only)

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

Focus knob in flood position

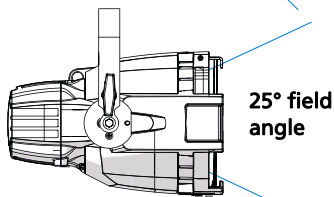
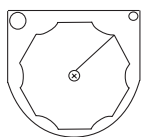


Focus knob screw



45° field angle

Focus knob in spot position



25° field angle

Focus knob

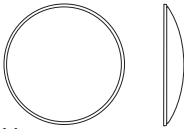


CAUTION: *The focus knob does not rotate 360°. Do not attempt to exceed limit.*

PAR lenses

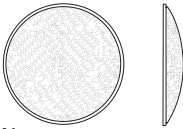
The Source 4WRD PAR Fixture Body includes a flat lens, but the fixture can use the same lenses as the Source Four PAR. Identify the lens type, or beam spread, by the lens texture.

VNSP



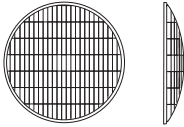
Very narrow spot
Clear glass
15° Round beam shape

NSP



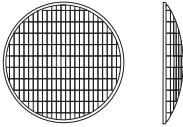
Narrow spot
Stipple glass (slight diffuse texture)
19° Round beam shape

MFL



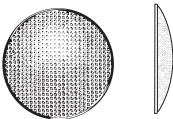
Medium flood
Fewer facets, sized 6 x 22mm
21° x 34° Oblong beam shape

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

Change a PAR lens



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

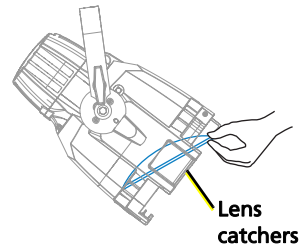
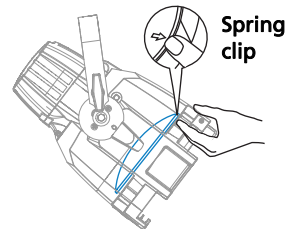
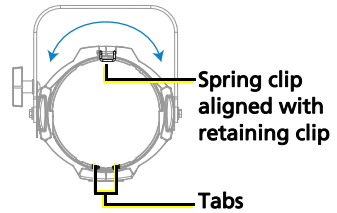


WARNING: **Unplug the fixture and allow it to cool down before attempting to change a lens.**

Replace lenses if they become cracked or badly scratched.

Remove a lens

- 1: Place the fixture on a flat, stable work surface. **Do not** remove or install lenses with 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 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 the convex side faces the rear of the fixture.

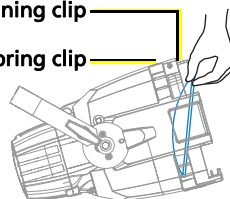


Note: *Installing the lens with the convex side out will not impair the optics, but it will make removing the lens difficult.*

- 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.

Retaining clip

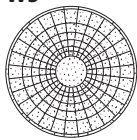
Spring clip



PARNel lenses

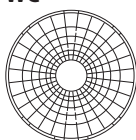
PARNel lenses come in two versions. The wave/clear lens is in a fixed position in the rear of the fixture. The wave/stippled lens is in the rotating ring at the front of the fixture. The wave surfaces face each other.

WS



Wave/stippled lens

WC



Wave/clear lens

Change front PARNel lens

Replace lenses if they become cracked or badly scratched.



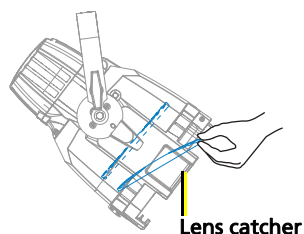
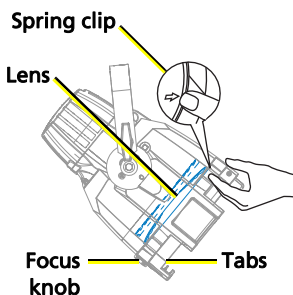
CAUTION: *Never operate the fixture without a lens in place.*



WARNING: **Unplug the fixture and allow it to cool down before attempting to change a lens.**

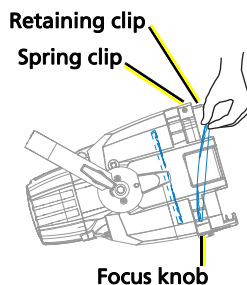
Remove a front lens

- 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 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 the convex side faces the rear of the fixture.

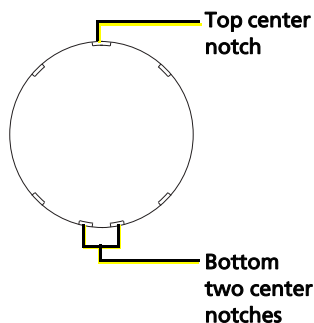


Note: *Installing the front lens with the contoured side out will not impair the optics, but it will make removing the lens difficult.*

- 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 front lens

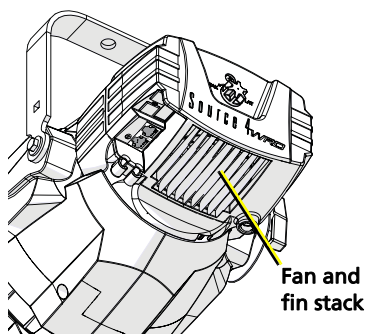
- 1: There are seven notches cut into the stippled side of the lens. Position the lens so that the cluster of three notches is on top. The center notch of the cluster aligns with the spring clip on the lens retainer ring.
- 2: The bottom of the lens has a cluster of four notches. Place the two center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



Cleaning and maintenance

Clean the fixture

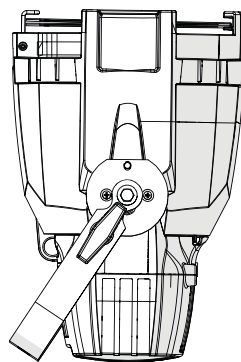
- Use oil-free canned air to clean the LED domes prior to installation and prior to storage.
- Use oil-free canned air to clean the fan and fin stack as part of regular fixture maintenance.



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

Store the fixture

- When not installed on the Source 4WRD PAR or PARNel Fixture Body, store the Source 4WRD LED 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 fixture 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. Isopropyl alcohol, distilled water, or a 50%-50% mixture of each can be used to clean the glass surface.

Clean the reflector



WARNING: Unplug the fixture before attempting to clean the reflector.

To quickly clean the reflector, remove the lens (see [Remove a lens](#) on [page 15](#)) 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 lens](#) on [page 15](#).
- 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 8](#).
- 3: Remove dust with a blast of oil-free air or wipe with a clean, lint-free cloth. Isopropyl alcohol, distilled water, or a 50%-50% mixture of each can be used to clean the glass surface.
- 4: Replace the lens. See [Install a lens](#) on [page 16](#).
- 5: Reinstall the Source 4WRD LED and tighten the attachment screw. See [Install Source 4WRD LED](#) on [page 8](#).



Corporate Headquarters ■ Middleton, Wisconsin, USA ■ Tel +608 831 4116
Service (Americas) ■ service@etconnect.com
London, UK ■ Tel +44 (0)20 8896 1000 ■ Service: (UK) service@etceurope.com
Rome, IT ■ Tel +39 (06) 32 111 683 ■ Service: (UK) service@etceurope.com
Holzkirchen, DE ■ Tel +49 (80 24) 47 00-0 ■ Service: (DE) techserv-hoki@etconnect.com
Hong Kong ■ Tel +852 2799 1220 ■ Service: (Asia) service@etcasia.com
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