



# High End Systems SolaPix 19

## Automated Luminaire User Manual

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# Table of Contents

Introduction .....	1
Document Conventions .....	1
Help from Technical Services .....	2
Safety Considerations .....	3
General Operation and Use Guidelines .....	5
Fixture Overview .....	6
Modular Control .....	7
Specifications .....	7
Environment .....	7
Power .....	8
Electrical .....	8
Input and Power Factor .....	8
Connector Specifications .....	8
Install the Fixture .....	9
DMX Control .....	12
DMX Connector Pinout .....	12
Connect DMX Cables to Fixture .....	12
Terminate DMX .....	13
Set the DMX Start Address .....	13
DMX Channels .....	13
Ethernet Control .....	14
Connect Ethernet Cables to a Fixture .....	14

Set the DMX Start Address .....	15
Set the Control Source and Universe .....	15
<b>Configure the Fixture .....</b>	<b>16</b>
Navigate the User Interface .....	16
Set Fixture Parameters .....	17
Address .....	17
Info Menu .....	21
Set Menu .....	23
Test Menu .....	27
Preset Menu .....	27
<b>Error Codes .....</b>	<b>28</b>
<b>Maintenance .....</b>	<b>29</b>
Clean the Fixture .....	29
Replace the Fuse .....	29
<b>Compliance .....</b>	<b>30</b>
FCC Compliance .....	30

# Introduction

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Congratulations on your purchase of the SolaPix 19 automated fixture.

This manual provides important information for the safe installation, configuration, and maintenance of your SolaPix 19 fixture. For your safety, read this entire manual prior to installing, operating, or servicing the fixture.

## Document Conventions

This document uses the following conventions to draw your attention to important information.



**Note:** *Notes are helpful hints and information that is supplemental to the main text.*

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**CAUTION:** *A Caution statement indicates situations where there may be undefined or unwanted consequences of an action, potential for data loss or an equipment problem.*

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**CAUTION:** *Hot Surfaces. This statement indicates that while operating, equipment surfaces may reach very high temperatures. Allow the fixture to cool before handling or servicing.*



**WARNING:** *A Warning statement indicates situations where damage may occur, people may be harmed, or there are serious or dangerous consequences of an action.*

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**WARNING:** *RISK OF ELECTRIC SHOCK! This warning statement indicates situations where there is a risk of electric shock.*

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All ETC High End Systems documents are available for free download from our website: [etconnect.com/Products/Automated-Fixtures](http://etconnect.com/Products/Automated-Fixtures).

Please email comments about this manual to: [TechComm@etconnect.com](mailto:TechComm@etconnect.com).

## Help from Technical Services

If you have questions that are not answered by this document, try the ETC support website at [support.etconnect.com](http://support.etconnect.com) or the High End Systems product website at [etconnect.com/Products/Automated-Fixtures](http://etconnect.com/Products/Automated-Fixtures). 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 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 Considerations

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To ensure safe operation, follow the safety instructions and warning notes in the user manual.

- This fixture is intended for professional use only. Not for residential use. Read the entire manual before using this equipment.
  - Contact your authorized ETC dealer or Technical Services before performing any service in order to maintain warranty coverage.
- 



## **WARNING:** Note the following safety warnings before use:

- This equipment is designed for operation by qualified personnel only.
  - Do not stare at the operating lamp. May be harmful to the eyes.
  - Replace fuses with the specified type and rating only. See [page 29](#).
  - Ensure that the available voltage is within the stated range. See [page 8](#).
  - Do not use this fixture with a damaged power lead (cord set). If the lead is damaged, it must be replaced by a qualified technician with an equivalent type before use. Contact your local authorized dealer for replacement power leads.
  - Do not use this fixture if the lens is damaged. Damaged lenses must be replaced before use. Contact your local authorized dealer for a replacement.
  - Do not mount the fixture on or near flammable surfaces.
  - The fixture should be positioned so that prolonged staring into the fixture at a distance closer than 6.4 m (21 ft) is not expected.
  - Minimum distance from fixture head to combustible materials: 0.1 m (4.0 in).
  - Minimum distance to lighted objects: 1.0 m (3.28 ft).
- 



## **AVERTISSEMENT :** Pour votre sécurité, lisez les mises en garde et les avis suivants avant toute utilisation :

- Cet équipement est conçu pour être utilisé par un personnel qualifié uniquement.
  - Ne regardez pas la lampe en fonctionnement. Peut être nocif pour les yeux.
  - Remplacez les fusibles uniquement par le type et le calibre indiqués. Voir [page 29](#).
  - Veillez à ce que la tension disponible soit dans la plage indiquée. Voir [page 8](#).
  - N'utilisez pas ce projecteur avec un cordon d'alimentation endommagé (fils électriques). Si le cordon est endommagé, un technicien qualifié doit le remplacer par un cordon de type équivalent avant que l'appareil ne puisse être utilisé. Contactez votre distributeur agréé local pour obtenir des cordons d'alimentation de rechange.
  - N'utilisez pas cet appareil si la lentille est endommagée. Les lentilles endommagées doivent être remplacées avant l'utilisation. Contactez votre revendeur agréé local pour un remplacement.
  - Ne pas installer le projecteur sur ou à côté d'une surface inflammable.
  - L'appareil doit être positionné de manière à ce qu'un regard prolongé dans l'appareil à une distance inférieure à 6,4 m (21 pi) soit peu probable.
  - Distance minimum entre la tête du luminaire et les matériaux combustibles : 0.1 m (4.0 in).
  - Distance minimum avec les objets éclairés : 1.0 m (3.28 ft).
-

**WARNING: RISK OF ELECTRIC SHOCK!**

- Do not operate this device with the cover open.
- Disconnect the fixture from power and DMX and allow it to cool before performing any cleaning and maintenance.

**AVERTISSEMENT : RISQUE DE CHOC ÉLECTRIQUE!**

- N'utilisez pas cet appareil avec le couvercle ouvert.
- Débrancher la lampe de son alimentation et du DMX et la laisser refroidir avant d'effectuer un nettoyage ou un entretien.



**RISK GROUP 2: CAUTION.** *Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eyes.*

**GROUPE DE RISQUE 2 (RISQUE MODÉRÉ) : ATTENTION.** *Rayonnement optique potentiellement dangereux émis par ce produit. Ne regardez pas la lampe en fonctionnement. Peut être nocif pour les yeux.*



**CAUTION: Hot Surfaces.** *Allow the device to cool completely before handling and servicing.*



**ATTENTION : Surfaces chaudes.** *Laissez le luminaire refroidir complètement avant de le manipuler et de procéder à son entretien.*



**Note:** *The light source in this luminaire is not user-replaceable, and must be replaced only by a qualified technician. Contact ETC Customer Support for assistance.*

Symbols used on the product label are defined below:

	The luminaire must be installed at least 1.0 m (3 ft 4 in) away from all lighted objects.	Le luminaire doit être installé à au moins 1,0 m (3 pi. 4 po.) de tout objet éclairé.
	General warning	Avertissement général
	Do not stare at the operating light source.	Ne pas regarder la source de lumière lorsqu'elle fonctionne.
	This product should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling.	Ce produit ne doit pas être jeté avec les déchets ménagers mais doit être déposé dans une collecte de déchets électroniques ou dans un point de collecte.
$t_a$ or $T_a$	Rated maximum ambient temperature	Température ambiante maximale recommandée
	Operate indoors only, not where this product would be exposed to the weather.	Ne fonctionne qu'à l'intérieur, pas là où ce produit serait exposé aux intempéries.

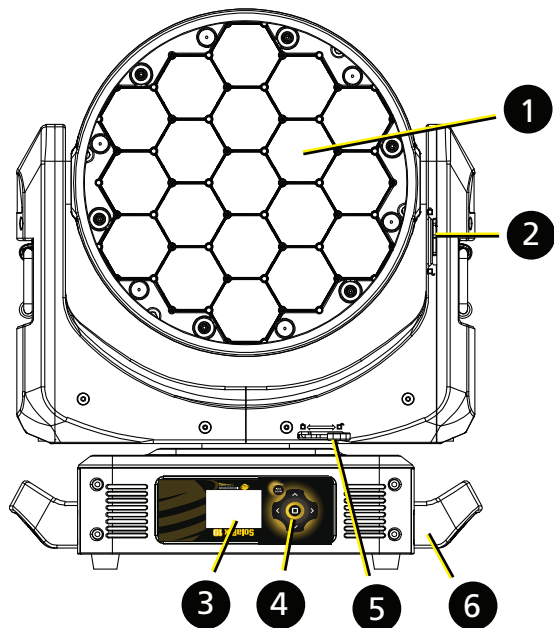


## General Operation and Use Guidelines

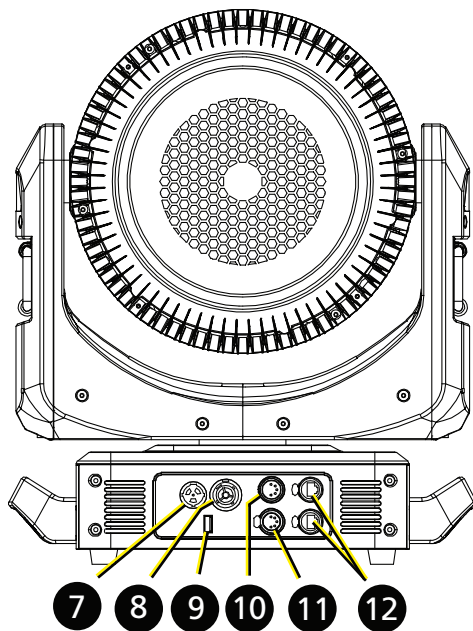
- This fixture is only allowed to be operated with the maximum alternating current that is stated in the technical specifications label provided on the fixture.
- Lighting effects are not designed for permanent operation. Consistent operation breaks may extend the life of the fixture.
- When choosing the installation location, make sure the fixture will not be exposed to extreme heat, moisture, or dust.
- Do not point the lens toward the sun or other bright light source. Doing so could damage the fixture.
- If using the supplied Omega brackets with quick-locking thumb screws for fixture hanging, ensure that the thumb screws have engaged a complete 90-degree positive latch.
- Operate the fixture only after having familiarized yourself with its functions. Do not permit persons who are not qualified and familiar with its functions to operate the fixture.
- Do not modify the fixture. Any modifications will void the warranty.
- This manual describes the proper installation and operation of this fixture. Using this fixture in any way other than the intended use may cause damage and void the warranty.
- When the fixture has been stored or transported in cold temperatures, allow it to warm to room temperature for a minimum of one hour before applying power. Applying power to a cold fixture may cause damage to the fixture and void the manufacturer warranty.
- When you power on the fixture, you may notice smoke or odor. This is normal and should decrease gradually. If smoke or odor persists, disconnect the fixture from power and contact your ETC dealer or Technical Services.
- Please use the original packaging if the fixture is to be transported. ETC will not be responsible for the fixture if packaging other than manufacturer provided packaging is used.

# Fixture Overview

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- 1: Lens
- 2: Tilt lock
- 3: Display
- 4: Navigation controls
- 5: Pan lock
- 6: Handle
- 7: Power In
- 8: Power Out
- 9: USB
- 10: DMX Thru
- 11: DMX In
- 12: Ethernet ports (x2)



## Modular Control

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**Note:** *Some consoles may refer to the Flex effects by the feature name "Macro". For the purposes of the SolaPix 19 software and user manual, "Flex" and "Macro" are interchangeable.*

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The SolaPix 19 fixture has three segments of control (or modules) that essentially give you three fixtures in one, letting you customize each fixture based on your control needs.

- The Base module is the primary control. The settings in this module control the basic functions of the fixture, which include pan, tilt, zoom, and the control settings for the fixture.
- The Flex module lets you build and customize animation effects based on a library of animations.
- The Pixel module gives you individual control of each pixel.

The Base module is always active. The Flex and Pixel modules can be disabled, or they can be set to Compound or Independent modes.

In Compound mode, a module automatically addresses itself to the same source as the Base module and follows immediately after the address of the Base module.

In Independent mode, you address a module individually to any source (DMX or Ethernet), Address, or Universe that your control setup requires.

Compounding the modules enables several different options:

- Base + Flex (default)
- Base + Pixel
- Base + Flex + Pixel

See [Configure the Fixture on page 16](#) for information about configuring the modules.

Because the modules all control the same light sources, you can set the priority of control using the Module Priority function (channel 12 in the Base module).

See the SolaPix 19 DMX channel map on the ETC website for details: [etconnect.com/SolaPix/Documentation](http://etconnect.com/SolaPix/Documentation).

## Specifications

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For complete technical specifications, see the technical datasheet: [etconnect.com/SolaPix/Documentation](http://etconnect.com/SolaPix/Documentation).

### Environment

- Ambient operating temperature range: -10°C to 45°C (14°F to 113°F).
- Relative humidity: 0%–90%, non-condensing.
- Storage temperature: -20°C to 60°C (-4°F to 140°F).
- Indoor use only.
- Dry locations only, IP20 rated.

## Power



**WARNING:** Connect the fixture to a non-dimmable power source in order to avoid damage to the fixture's internal power supply and other electrical components. Using a dimmable power source can damage the fixture and will void the warranty.

### Electrical

- 100–240 VAC at 50/60 Hz
- Maximum power consumption: 1000 W at 100 V

### Input and Power Factor

The values listed below were measured with LEDs at full and all motors functioning.

VAC	Amps	Hz	Watts	VA	PF
100	10.0	50	996	1001	0.99
120	8.1	60	930	965	0.99
200	4.7	50	910	934	0.97
208	4.5	60	928	930	0.97
220	4.3	50	907	938	0.96
240	3.9	60	896	928	0.96



**CAUTION:** *Using this fixture below 100 V on a 15 A breaker may cause the breaker to trip. Ensure that the circuit can handle the fixture's maximum potential draw before you connect it.*

### Connector Specifications



**WARNING:** Risk of Shock and Fire. Assemble a grounding-type attachment plug with integral cord grip that is within the voltage and amperage rating of this luminaire.

**AVERTISSEMENT :** Risque de choc et d'incendie. Assurez-vous d'utiliser une prise de mise à la terre avec décharge de traction intégrée qui respecte la tension et l'ampérage de ce luminaire.

A power input cable with powerCON® TRUE1® TOP input to bare ends is provided. The power input cable is rated for maximum 20 A/120 VAC and 16 A/240 VAC. Install a suitable connector to meet the installation requirements. See the following wire color code chart:

Wire Color Code (EU)	Wire Color Code (US Standard)	Connection type	Terminal
Green/Yellow	Green	Earth/Ground	
Blue	White	Neutral	N
Brown	Black	Line (Live)	L

# Install the Fixture

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Overhead rigging must be performed by qualified personnel. Follow all local and national codes and recommended practices.

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## **WARNING:**

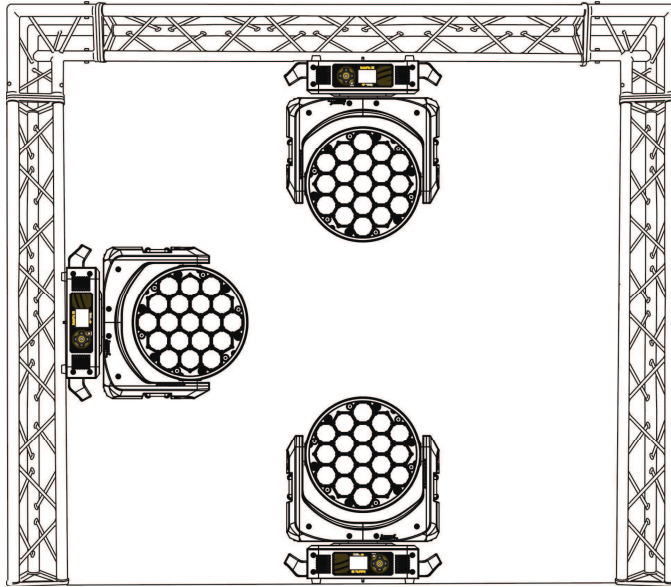
- The operating temperature range for this fixture is -10°C to 45°C (14°F to 113°F). Do not operate the fixture outside of this range.
  - The installation location must support a minimum point load of 10 times the weight of the fixture.
  - The installation must always be secured with a secondary safety attachment. An appropriate safety cable is supplied.
  - Safety cable attachment must be rated by a safety factor of 10.
  - A supportive and stable surface must be used when fixtures are placed on their feet.
  - Never stand directly below the installed fixture when mounting, removing, or servicing the fixture.
  - All safety and technical aspects of fixture installation must be approved by qualified personnel before operation.
  - The installation must be regularly inspected by qualified personnel.
- 

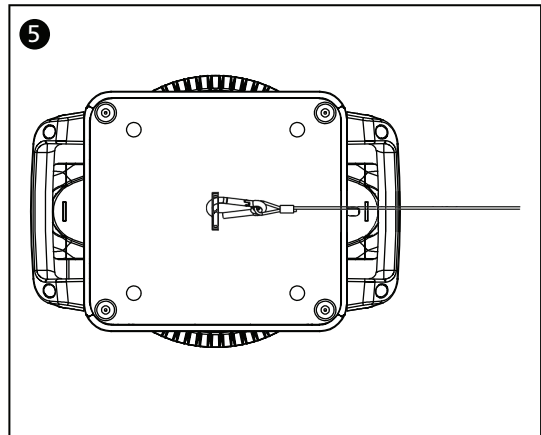
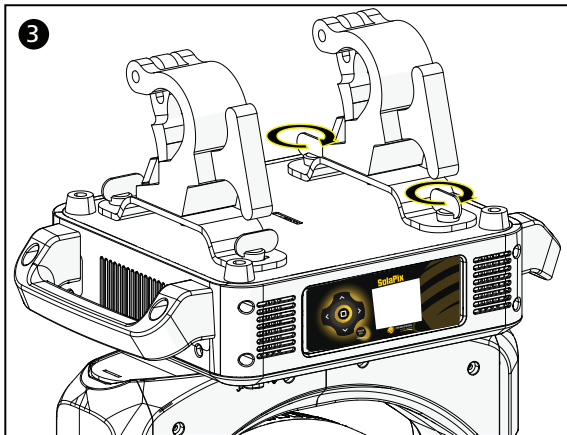
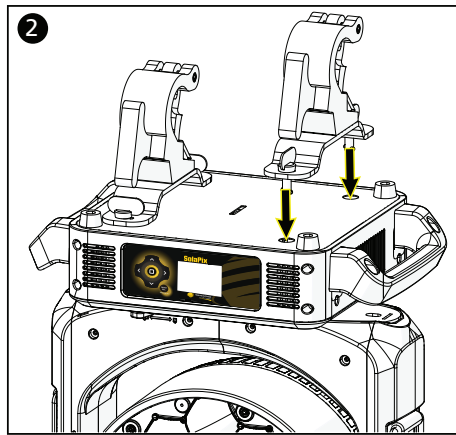
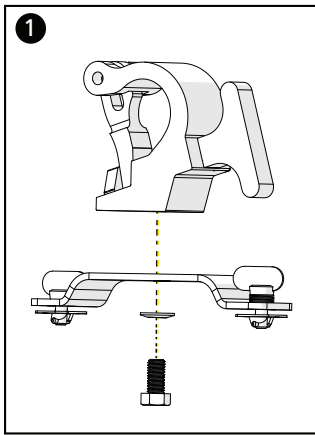


## **AVERTISSEMENT :**

- La plage de température de fonctionnement de ce projecteur est de -10°C à 45°C (14°F à 113°F). Ne faites pas fonctionner le projecteur au-delà de cette plage.
  - L'emplacement d'installation doit supporter une charge concentrée minimale de 10 fois le poids de l'appareil.
  - L'installation doit toujours être sécurisée par une fixation de sécurité auxiliaire. Un câble de sécurité approprié est fourni.
  - La fixation du câble de sécurité doit être classée avec un facteur de sécurité de 10.
  - Une surface d'appui stable doit être utilisée quand les projecteurs sont placés sur pieds.
  - Ne vous placez jamais directement sous le projecteur lors du montage, du démontage ou de son entretien.
  - Tous les aspects techniques et de sécurité de l'installation du projecteur doivent être approuvés par un personnel qualifié avant qu'il ne soit utilisé.
  - L'installation doit être régulièrement inspectée par du personnel qualifié.
-

You can install the fixture in any of the orientations shown below.





1. Assemble the clamp (provided by others) to the Omega bracket that was provided with the fixture and secure together using appropriately sized hardware (not provided).
2. Align the assembled Omega bracket and quick-lock fasteners into the respective holes on the bottom of the fixture upper enclosure.
3. Tighten each of the quick-lock fasteners fully, turning clockwise. You will hear and feel a click when the fastener is fully secured.
4. Repeat steps 1 through 3 for the second clamp and bracket.
5. Attach the provided safety cable through the attachment point on the bottom of the fixture upper enclosure, and secure the cable to the trussing system or other safe installation point. Follow local codes and recommended safety standards for securing the fixture to the installation location.
6. Attach the fixture to the installation location using the clamp manufacturer's instructions for a secure fit. When using an Omega clamp, close the safety and fully tighten the clamp wing nut until secure.
7. Inspect the installation prior to lifting the fixture overhead.

# DMX Control

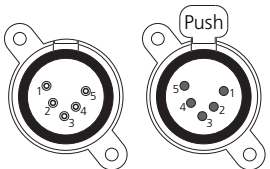
The SolaPix 19 fixture operates on standard DMX-512 control bus, controlled by a DMX console. The fixture requires 114 channels of DMX-512.

Attach the fixture to the control bus using a two-core, shielded cable with a 5-pin XLR connector (Belden 9729 is preferred).

Two XLR termination receptacles are available: one for connection of DMX Input and one for DMX Thru (used when daisy-chaining to additional fixtures on the DMX control bus).

## DMX Connector Pinout

Use the following standard pinout when preparing DMX cable with 5-pin XLR connectors. ETC recommends using Belden 9729 or equivalent cable. (See the ETC cable cross database for equivalent alternatives: [etcconnect.com/Support/Cable-Cross-Database.aspx](http://etcconnect.com/Support/Cable-Cross-Database.aspx).) The second data pair in the recommended cable type is not used, but is reserved future service.

DMX-512 Pinout for Five-Pin XLR	Pin	Use
	1	Common (shield)
	2	Data -
	3	Data +
	4	Not connected
	5	Not connected

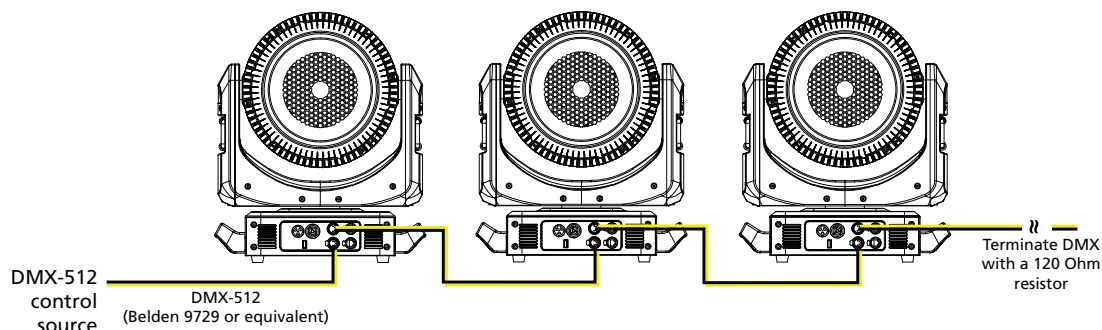
## Connect DMX Cables to Fixture

The following instructions are guidelines for connecting DMX to your fixture. Your installation may vary.

1. Connect a DMX data cable to the DMX control source and the DMX In XLR receptacle on the first fixture in the DMX data run.
2. Link the remaining fixtures in the data run by connecting a DMX data cable from the DMX Thru connector on a fixture to the DMX In connector on the next fixture in the data run.



**Note:** A maximum of 32 DMX devices may be connected in any one DMX data run when installed in a daisy-chain fashion.





## Terminate DMX

Use a DMX terminator or install a resistor on the last fixture of the DMX control run to prevent corruption (data reflection) of the digital control signal by electrical noise.

A DMX terminator is an XLR plug with a 120  $\Omega$  resistor connected between pins 2 and 3 that can be installed into the DMX output receptacle of the last fixture in the DMX control run. Contact your authorized dealer or ETC for ordering information ([etcconnect.com/contactETC](http://etcconnect.com/contactETC)), or purchase an XLR DMX terminator from the ETC Online Shop ([shop.etcconnect.com](http://shop.etcconnect.com)).

## Set the DMX Start Address

Give each fixture a unique DMX starting address so that the correct fixture responds to the control signals. This DMX start address is the channel number from which the fixture starts to “listen” to the digital control information sent out from the control source.

Modify the fixture DMX start address on the user interface, located on the upper enclosure. See [Address on page 17](#).



**Example:** *The SolaPix 19 requires up to 114 channels of control depending on the configuration of the modules. The Base module uses 21 channels. When the Flex module is set to Compound mode, an additional 17 channels are added. If the Pixel module is also set to Compound mode, then an additional 76 channels are added, making 114 channels total.*

*If you are using the Base and Pixel modules (the Pixel module is set to Compound mode and the Flex module is disabled) the total channel usage is 97 channels.*

## DMX Channels

The current DMX channel map for the SolaPix 19 can be found on the ETC website: [etcconnect.com/SolaPix/Documentation](http://etcconnect.com/SolaPix/Documentation).

# Ethernet Control

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The SolaPix 19 fixture includes two Ethernet ports that allow sending and receiving of control signals using the Art-Net protocol or sACN.

Use a Cat5e (or better) cable and terminate to RJ45 connectors following the TIA/EIA 568B wiring standard.

## Connect Ethernet Cables to a Fixture

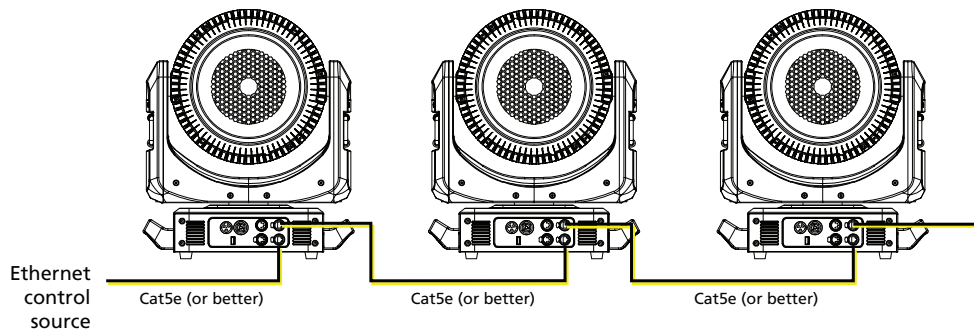
The following instructions are guidelines for connecting Ethernet to your fixture. Your installation may vary.

1. Connect a cable from the Ethernet control source to one of the Ethernet ports on the first fixture in the Ethernet control run.
2. Connect the first fixture to a second fixture by connecting a cable from the second Ethernet port on the first fixture to one of the Ethernet ports on the second fixture.
3. Continue linking the remaining fixtures by connecting a cable from Ethernet port to Ethernet port on the fixtures on the control run.



**Note:** *The Cat5e cable distance should not exceed 100 m (328 ft), and you should not connect more than 20 fixtures in one Ethernet control run when the fixtures are linked together.*

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## Set the DMX Start Address

Give each fixture a unique DMX starting address so that the correct fixture responds to the control signals. This DMX start address is the channel number from which the fixture starts to “listen” to the digital control information sent out from the control source.

Modify the fixture DMX start address on the user interface, located on the upper enclosure. See [Address on page 17](#).



**Example:** *The SolaPix 19 requires up to 114 channels of control depending on the configuration of the modules. The Base module uses 21 channels. When the Flex module is set to Compound mode, an additional 17 channels are added. If the Pixel module is also set to Compound mode, then an additional 76 channels are added, making 114 channels total.*

*If you are using the Base and Pixel modules (the Pixel module is set to Compound mode and the Flex module is disabled) the total channel usage is 97 channels.*

## Set the Control Source and Universe

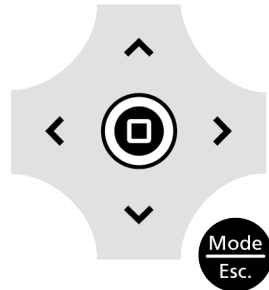
For Ethernet control, you must configure the control source (Art-Net or sACN) and set a universe (000-255) for each fixture. See [Address on page 17](#) for details.






# Configure the Fixture

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You can configure SolaPix 19 fixtures through the onboard user interface.

## Navigate the User Interface



1. Press the [MODE/ESC] button  to access the main menu. (The display is powered by battery when the fixture has no power; press and hold the [MODE/ESC] button  for three seconds to access the main menu.)
2. Browse the menu by pressing the up, down, left, or right navigation buttons.
3. Press the Enter button  to select a menu item.
4. Modify the selection by pressing the up, down, left, or right navigation buttons according to the selection.
5. Press the Enter button  to confirm a modified selection.
6. To exit the menu, press the [MODE/ESC]  button.



**Note:** *If you press the Enter button to confirm a selection and push no other buttons, the user interface returns to the default display after 15 seconds.*

---

## Set Fixture Parameters

This section provides instructions to configure and set up the SolaPix 19. See [Navigate the User Interface on page 16](#) for information about the navigation buttons.

Provide power to the fixture before configuring it. If you do not provide power, the fixture will use battery power to power the user interface.

### Address

**Navigate:** Main Menu → Address

The Address menu provides access to configure the three modules: Base, Flex, and Pixel. You can configure each module individually, or you can compound some or all of the modules. For information about the modules, see [Modular Control on page 7](#).



**Note:** *Some consoles may refer to the Flex effects by the feature name "Macro". For the purposes of the SolaPix 19 software and user manual, "Flex" and "Macro" are interchangeable.*

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**Navigate:** Main Menu → Address → Base Module

Base module configuration is mandatory. You must configure this module for each fixture.

Settings	Value	Description
Source	<ul style="list-style-type: none"><li>• DMX</li><li>• Art-Net</li><li>• sACN</li></ul>	Select the control source for the Base module.
Address	001–xxx	Set the DMX address for the Base module.
Universe	000–255	When using Art-Net or sACN control source, set the universe.

**Navigate:** Main Menu → Address → Flex Module

The Flex module is an optional feature. Select **Disable** in the Mode menu to turn off the module.

Settings	Value	Description
Mode	<ul style="list-style-type: none"><li>• Compound</li><li>• Independent</li><li>• Disable</li></ul>	Select how the Flex module is implemented: <ul style="list-style-type: none"><li>• Compound - the module inherits its settings from the Base module. See the <a href="#">Source</a>, <a href="#">Address</a>, and <a href="#">Universe</a> settings for details.</li><li>• Independent - the addressing and control of the module are independent of the other modules.</li><li>• Disable - the module is off.</li></ul> The default mode is Compound.
Source	<ul style="list-style-type: none"><li>• DMX</li><li>• Art-Net</li><li>• sACN</li></ul>	Select the control source for the Flex module. Note: This option is only available when the Mode selection is set to <b>Independent</b> . When you set the module to <b>Compound</b> mode, the Source is inherited from the Base module.
Address	001–xxx	Set the DMX address for the Flex module. Note: This option is only available when the Mode selection is set to <b>Independent</b> . When you set the module to <b>Compound</b> mode, the Address is inherited from the Base module Address (Base module Address+21).
Universe	000–255	When using Art-Net or sACN control source, set the universe. Note: This option is only available when the Mode selection is set to <b>Independent</b> . When you set the module to <b>Compound</b> mode, the Universe setting is inherited from the Base module.

**Navigate:** Main Menu → Address → Pixel Module

The Pixel module is an optional feature. Select **Disable** in the Mode menu to turn off the module.

Settings	Value	Description
Mode	<ul style="list-style-type: none"><li>• Compound</li><li>• Independent</li><li>• Disable</li></ul>	Select how the Pixel module is implemented: <ul style="list-style-type: none"><li>• Compound - the module inherits its settings from one of the other modules. See the <a href="#">Source</a>, <a href="#">Address</a>, and <a href="#">Universe</a> settings for details.</li><li>• Independent - the addressing and control of the module are independent of the other modules.</li><li>• Disable - the module is off.</li></ul> The default mode is Disable.
Source	<ul style="list-style-type: none"><li>• DMX</li><li>• Art-Net</li><li>• sACN</li></ul>	Select the control source for the Pixel module.  Note: This option is only available when the Mode selection is set to <b>Independent</b> . When you set the module to <b>Compound</b> mode, the Source is inherited from the Flex module (or the Base module if the Flex module is disabled).
Address	001–xxx	Set the DMX address for the Pixel module.  Note: This option is only available when the Mode selection is set to <b>Independent</b> . When you set the module to <b>Compound</b> mode, the Address is inherited from the Flex module Address (Flex module Address+17). If the Flex module is disabled, then the Address is inherited from the Base module Address (Base module Address+21).
Universe	000–255	When using Art-Net or sACN control source, set the universe.  Note: This option is only available when the Mode selection is set to <b>Independent</b> . When you set the module to <b>Compound</b> mode, the Universe setting is inherited from the Base module.

## Example Use Cases

### Default Use Case

The system has a small number of fixtures and limited universes of DMX, so numerous channels of DMX cannot be dedicated to each individual fixture.



#### Example:

*For each fixture:*

- *Configure the Base module with DMX source and a unique address.*
- *Use the default settings for the Flex and Pixel modules:*
  - *Flex module set to Compound mode*
  - *Pixel module set to Disable mode*

*The result: All fixtures have 38 channels of control for Base module functions and Flex module animations. The recommended console library is Base + Flex.*

### Many Universes of DMX Controlled by a Console

The system has many universes of DMX available, so 114 channels of DMX can be dedicated to each individual fixture.



#### Example:

*For each fixture:*

- *Configure the Base module with DMX source and a unique address.*
- *Set both the Flex and Pixel modules to Compound mode.*

*The result: All fixtures have 114 channels of control for Base module functions, animations, and pixels. The recommended console library is Base + Flex + Pixel.*

### Limited Universes of DMX with Individual Control

The system does not have enough DMX to dedicate 38 channels of DMX to each fixture, but individual control of each fixture is necessary.



#### Example:

*For each fixture:*

- *Configure the Base module with DMX source and a unique address, for example:*
  - *Fixture 1 = address 1*
  - *Fixture 2 = address 22*
  - *Fixture 3 = address 43*
  - 
  - 
  - 
  - *Fixture 24 = address 484*
- *Configure the Flex module with the Independent mode and an address that is common for all fixtures (address 505 in this example).*

*The result: You can control each fixture individually and you can access the Flex effects (although all fixtures will perform the same animation). The recommended console libraries are Base for each unique fixture and a single instance of Flex for the Flex/Macro control.*



## Separate Console Control and Video Server Control

The system contains a video control source in addition to a DMX console.



### Example:

For each fixture:

- Configure the Base module with DMX source and a unique address.
- Set the Flex module to Compound mode.
- Set the Pixel module to Independent mode, set the sACN or Art-Net source, and assign a unique DMX address and universe.

*The result: All fixtures have control for the 38 channels of Base module functions and animations via DMX, and 76 channels of control for the Pixel module via Ethernet from a video server.*

## Info Menu

### Set the Time Information

**Navigate:** Main Menu → Info → Time Info

Parameter	Value	Description
Current Time	XXXX (Hours)	Running time of the fixture from the last time that the fixture was powered on, shown in hours (h). The counter resets after the fixture is turned off.
Ttl Life Hrs	XXXX (Hours)	Total running time of the device, shown in hours (h).
Last Run Hrs	XXXX (Hours)	Running time of the fixture from the last time that the run time value was reset, shown in hours (h).
LED Hours	XXXX (Hours)	Total running time of the fixture LEDs, shown in hours (h).
Timer PIN	Timer PIN XXX	You must enter the Timer PIN in order to access the Clr Last Run menu item. The default Timer PIN is 038.
Clr Last Run	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	This password-protected menu item resets the Last Run Hrs value. You must enter the Timer PIN to access this menu item.  Select ON to clear the value for the Last Run Hrs parameter for the fixture.
LED Time PIN	LED Time PIN XXX	You must enter the LED Time PIN in order to access the Clear LED Time menu item. The default LED Time PIN is 038.
Clear LED Time	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	This password-protected menu item resets the LED Hours value. You must enter the LED Time PIN to access this menu item.  Select ON to clear the value for the LED Hours parameter.

### View Fixture Errors

**Navigate:** Main Menu → Info → Error Info

Displays any current fixture errors. See [Error Codes on page 28](#) for information about the errors.

### ***View DMX Values for Channels***

**Navigate:** Main Menu → Info → DMX Value

View the DMX value of each of the fixture's channels (parameters of the fixture). Scroll to the parameter that you want to view (Pan, Tilt, etc.) and view the value. The DMX value that you view is the DMX value that displays on the main window of the UI until you select a different DMX value to view.

### ***View Fixture Head Temperature***

**Navigate:** Main Menu → Info → Head Temp

Displays the current fixture temperature as read from the fixture head (near the CMY filter).

### ***View Power Temperature***

**Navigate:** Main Menu → Info → Power Temp

Displays the current temperature as read from the power supply in the fixture base, which can help you to determine if the power supply is overheating.

### ***View Fan Speeds***

**Navigate:** Main Menu → Info → Fan Speed

Displays the speeds of the fixture's fans (in RPM).

### ***View Ethernet IP Address***

**Navigate:** Main Menu → Info → Ethernet IP

Displays the Ethernet IP address for the fixture. You can modify this value in the Set menu. See [Access Service Settings on page 24](#).

### ***View Software Version***

**Navigate:** Main Menu → Info → Software Ver

Displays the software version for the fixture.

## Set Menu

### Set the Status Options

**Navigate:** Main Menu → Set → Status

Parameter	Value	Description
No DMX Mode	<ul style="list-style-type: none"><li>• Close Shutter</li><li>• Hold</li><li>• Auto Program</li></ul>	Control mode when DMX is absent. The default value is Hold.
Pan Reverse	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	Reverse the pan movement of the fixture. The default value is OFF.
Tilt Reverse	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	Reverse the tilt movement of the fixture. The default value is OFF.
Pan Degree	<ul style="list-style-type: none"><li>• 630</li><li>• 540</li></ul>	Change the pan rotation of the fixture from the default setting of 540 degrees to 630 degrees.
Encoders	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	Turn on or off the encoder feedback for pan and tilt movement. You may want to turn off encoders when working on a fixture so that you can move pan and tilt without the fixture automatically moving back to position.
Hibernation	<ul style="list-style-type: none"><li>• OFF</li><li>• 1–99 minutes</li></ul>	Hibernation mode forces the LEDs and stepper motors to power off when the fixture loses DMX control signal for a set period of time. The default time setting is 15 minutes.
Refresh Rate	<ul style="list-style-type: none"><li>• 2.4 kHz Standard</li><li>• 16 kHz Standard</li><li>• 2.4 kHz (B)</li><li>• 16 kHz (B)</li></ul>	<p>Set the refresh rate of the fixture. Higher speed refresh rates work better on camera and can also reduce electrical noise produced by the fixture. Slower refresh rates prioritize step-less dimming performance.</p> <p>On fixtures with v3.0.0 firmware or later, the optional (B) refresh rates improve low-end dimming. See <a href="#">page 26</a> for firmware compatibility information.</p>
P/T Home Mode	<ul style="list-style-type: none"><li>• Standard</li><li>• Tilt First</li><li>• Pan First</li></ul>	<p>Set the order in which pan and tilt homing is performed.</p> <ul style="list-style-type: none"><li>• Standard: the pan and tilt home procedures run simultaneously.</li><li>• Tilt First: the tilt home procedure runs to completion, then the pan home procedure begins.</li><li>• Pan First: the pan home procedure runs to completion, then the tilt home procedure begins.</li></ul>
Dim Control	<ul style="list-style-type: none"><li>• Master Base Intensity</li><li>• Independent Base Intensity</li></ul>	<p>Set the modules to which the Dimmer DMX channel is applied.</p> <ul style="list-style-type: none"><li>• Master Base Intensity: the Dimmer DMX channel is applied to the Base, Flex, and Pixel modules.</li><li>• Independent Base Intensity: the Dimmer DMX channel is applied only to the Base module.</li></ul>

## Access Service Settings

**Navigate:** Main Menu → Set → Service Setting

Parameter	Value	Description
Service PIN	Service PIN XXX	You must enter the Service PIN in order to access the other Service Setting parameters. The default Service PIN is 050.
RDM UID	Manufacturer ID and a randomly generated number	<p>This password-protected menu item lets you modify the RDM UID. You must enter the Service PIN to access this menu item.</p> <p><b>Note:</b> Remote Device Management (RDM) requires that all RDM devices have a unique identifier (UID). Modifying this setting can break the RDM capability of this fixture.</p> <p>Duplicate RDM UIDs on the same DMX control run will result in a data collision, causing a communication failure. Ensure that all fixtures have a unique RDM UID if RDM functionality is to be used.</p> <p>If DMX splitters are used and RDM control is to be used, these splitters must support RDM.</p>
Ethernet IP	<ul style="list-style-type: none"> <li>• Set As IP2</li> <li>• Set As IP10</li> <li>• Set As Any IP</li> </ul>	<p>This password-protected menu item lets you view the IP addresses used when Art-Net is the Ethernet source and change the IP address used when sACN is the Ethernet source. You must enter the Service PIN to access this menu item.</p> <ul style="list-style-type: none"> <li>• Set As IP2: This is a view-only IP address used with Art-Net.</li> <li>• Set As IP10: This is a view-only IP address used with Art-Net.</li> <li>• Set As Any IP: Change the IP address used with sACN. <ul style="list-style-type: none"> <li>- Press the left and right navigation buttons to move between the octets.</li> <li>- Press the up and down navigation buttons to change the value of the selected octet.</li> </ul> </li> </ul>
Ethernet Mask IP	XXX.XXX.XXX.XXX	This password-protected menu item lets you modify the IP subnet mask. You must enter the Service PIN to access this menu item. The default IP subnet mask is 255.000.000.000.
Clr Err Info	<ul style="list-style-type: none"> <li>• ON</li> <li>• OFF</li> </ul>	<p>This password-protected menu item lets you clear error messages after you have fixed the errors. You must enter the Service PIN to access this menu item.</p> <p>Set this parameter to ON in order to clear the error messages. The default setting is OFF.</p>

## Set the Fans Mode

**Navigate:** Main Menu → Set → Fans Mode Setting

Select the fan mode for the fixture:

- Standard
- Studio (reduces fan noise, but decreases fixture output by ~20%)



**Note:** Fan Speed DMX control overrides the Fans Mode setting in the fixture user interface when the DMX control is set to Standard or Studio. See the *SolaPix 19 DMX channel map* for more details: [etcconnect.com/SolaPix/Documentation](http://etcconnect.com/SolaPix/Documentation).

## Set Display Settings

**Navigate:** Main Menu → Set → Disp. Setting

Parameter	Value	Description
Shutoff Time	02–60 minutes	Enter the amount of time the fixture waits after the last user interface button press until the display goes to sleep. The default value is 5 minutes.
Flip Display	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	Flip the display 180° when the fixture is mounted vertically. The default value is OFF.  Shortcut: With the main UI window displayed, press [>] to flip the display 180°. Press [<] to flip it back to its original orientation.
Key Lock	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	Lock the user interface. The default value is OFF. To unlock the user interface navigation buttons, press and hold the [MODE/ESC] button for three seconds.

## Set the Temperature Scale

**Navigate:** Main Menu → Set → Temp. C/F

Select the temperature scale for the fixture:

- Celsius (default value)
- Fahrenheit

## Update Fixture Firmware Using the USB Port

Firmware versions are not compatible with all SolaPix 19 fixtures. If you attempt to install firmware on the wrong fixture, the firmware update will fail.

Fixture Serial Number	Compatible Firmware Versions
55099xxxxxxx	v1.4.9 and earlier
951022090001 and higher	v3.0.0 and later

The serial number label is located on the bottom of the fixture's upper enclosure.

**Navigate:** Main Menu → Set → USB Update

Fixture firmware updates are available on the ETC website at [etconnect.com/Products/Automated-Fixtures](http://etconnect.com/Products/Automated-Fixtures).

1. Save the firmware update file to a USB drive.
2. Insert the USB drive into the USB port on the fixture base.
3. On the **Main Menu**, select **Set** → **USB Update**. The fixture reads the USB drive and displays a list of any firmware update files on the USB drive.
4. Select the appropriate file and then press the Enter button.
5. The software prompts you to confirm the update with the message "Update fixture?" Use the navigation buttons to select "Yes," and then press the Enter button to start the firmware update.
  - A progress monitor shows you the progress of the update.
  - When the update is complete, the fixture performs a data check to verify the update and then the fixture restarts itself.
  - The firmware update is complete when the display returns to its default state.
6. Remove the USB drive from the fixture.

## Reset Fixture to Factory Default Settings

**Navigate:** Main Menu → Set → Reset Default

Select ON to reset the fixture to the factory default settings.

## Test Menu

### *Reset (Home) the Mechanical Positions on the Fixture*

**Navigate:** Main Menu → Test → Home

Reset ("home") all features on the fixture, including, pan, tilt, colors, gobos, etc.

### *Test the Fixture*

**Navigate:** Main Menu → Test → Self Test

Run a self-test program on the fixture. When you run the test, the display indicates "Running" and the fixture automatically runs a self-test procedure, testing each of the functions. Press the [MODE/ESC] button to end the self-test and return the display to the previous menu.

### *Test an Individual Channel*

**Navigate:** Main Menu → Test → Test Channel

Run a self-test program on individual channels. The default value is Control. Select a different channel to run a self-test on that channel.

### *Manually Set an Individual Channel*

**Navigate:** Main Menu → Test → Manual Ctrl.

Select an individual channel on the fixture and manually set the channel value. While in Manual Control mode, all effects are canceled, the shutter opens, and the dimmer intensity is set to 100%.

### *Re-Calibrate an Individual Feature*

**Navigate:** Main Menu → Test → Calibration

Please contact Technical Services before using this parameter. See [Help from Technical Services on page 2](#).

You must enter the Calibration PIN in order to access the Calibration menu items. The default Calibration PIN is 050.

Once you have accessed the Calibration menu, select an individual feature on the fixture and manually calibrate it to a new "home" setting.



**Note:** *Changes you make to the fixture settings in the Calibration menu are not changed if you reset the fixture to the factory default settings. The Calibration settings are saved until they are changed in the Calibration menu.*

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## Preset Menu

**Navigate:** Main Menu → Preset

Presets are built by combining scenes into programs and then assigning the programs to Program Partitions for playback. For information about the **Preset** menu, access the *High End Systems Preset Menu Guide* from the ETC support website: [support.etcconnect.com](http://support.etcconnect.com).

# Error Codes

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When you apply power to the fixture, it runs a calibration (homing) sequence and displays any errors that it detects.



**Example:** *When the display shows "Error channel: Pan Coarse", it means there is an error in channel 1. When multiple errors are present they will cycle on the display twice, and then the fixture will reset (restart). Any errors that remain after two reset cycles are not correctable by reset alone and will require service. These errors are stored in the fixture error history until the errors are cleared. Please contact Technical Services for assistance.*

## ***Pan***

This message displays after the reset of the fixture if any of the following conditions exist:

- the yoke's magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Pan movement is not located in the default position after the reset

## ***Tilt***

This message displays after the reset of the fixture if any of the following conditions exist:

- the fixture head magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Tilt movement is not located in the default position after the reset

## ***Zoom***

This message displays after the reset of the fixture if any of the following conditions exist:

- the magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Zoom wheel is not located in the default position after the reset



# Maintenance

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**CAUTION: RISK OF ELECTRIC SHOCK! Disconnect power before servicing.**

**ATTENTION : RISQUE DE CHOC ÉLECTRIQUE! Couper l'alimentation avant l'entretien.**

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To ensure that the fixture remains in good working condition and does not fail prematurely, ETC recommends that you perform regular maintenance on the fixture.

Keep the following in mind during regular service and inspection:

- All screws for installing the fixture or parts of the fixture must be tightly connected and must not be corroded.
- There must not be any deformations to the housing, lenses, rigging, and installation points (ceiling, suspension, trussing).
- Moving parts must not show any signs of wear and must move smoothly without issue.
- The power supply cables must not show any damage, material fatigue, or sediment.
- If spare parts are required, order only genuine parts from ETC or your authorized ETC dealer.

## Clean the Fixture

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**CAUTION: The backside of each lens in the SolaPix 19 fixture is coated with a HazeFree lens coating technology (patent pending) that keeps the lens clear when the fixture is used with theatrical haze. Use of paper toweling or other abrasive, high-friction wipes and ammonia-based glass cleaners may permanently damage the coating.**

***If the lens coating wears away, contact ETC Technical Services for assistance.***

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1. Clean the lens only when necessary, and only use a Silky Microfiber Optical Cloth with purified water or an ammonia-free glass cleaner such as Miller Stevenson MS-260 Glass Cleaner.
  2. Clean the fans regularly to ensure maximum airflow and efficient cooling. This will ensure that the light source operates in the best possible condition.
- 



**Note:** *If you use compressed air to clean the fans, hold the fan blades in place while cleaning them. Letting the fans spin while using compressed air could damage the fans.*

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## Replace the Fuse

The fuse in this fixture is not user-replaceable. Contact ETC Technical Services for assistance. See [Help from Technical Services on page 2](#) for contact information.

# Compliance

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For current and complete compliance information, view the product datasheet at [etconnect.com/Products/Automated-Fixtures](https://etconnect.com/Products/Automated-Fixtures). For complete product documentation, including compliance documentation, visit [etconnect.com/products](https://etconnect.com/products).

## FCC Compliance

### SolaPix 19

(For any FCC matters):

Electronic Theatre Controls, Inc.  
3031 Pleasant View Road  
Middleton, WI 53562  
+1 (608) 831-4116  
[etconnect.com](https://etconnect.com)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation. Visit [etconnect.com/products](https://etconnect.com/products) for current and complete compliance information including FCC compliance.



**Note:** *This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Any modifications or changes to this product not expressly approved by Electronic Theatre Controls, Inc. could void the user's authority to operate the product. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense.*

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