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Visit the Lieto Light Fixture web page at wengercorp.com for more information.

Note: Please read and understand these instructions before operating.

Note: If you need additional information, contact Wenger Corporation using the information below.

Important User Information

General

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Printed and bound in the United States of America.

The information in this manual is subject to change without notice and does not represent a commitment on the part of Wenger Corporation. Wenger Corporation does not assume any responsibility for any errors that may appear in these instructions.

In no event will Wenger Corporation be liable for technical or editorial omissions made herein, nor for direct, indirect, special, incidental, or consequential damages resulting from the use or defect of these instructions. The manufacturer reserves the right to change this product at any time.

The information in this document is not intended to cover all possible conditions and situations that might occur. The end user must exercise caution and common sense when assembling or installing Wenger Corporation products. If any questions or problems arise, call the Wenger Corporation at (800) 4WENGER (493-6437) or +1-507-455-4100 worldwide.

Manufacturer

The Lieto™ LED Light Fixture is manufactured by:

Wenger Corporation
555 Park Drive
Owatonna, MN 55060
(800) 4WENGER (493-6437) • +1 (507) 455-4100
wengercorp.com

Intended Use

- This product is designed to be used in Wenger Acoustical Shells.
- The fixture is not designed for use in environments that have any of the following:
 - Damp or wet conditions IP20 rated
 - Corrosive atmospheres
 - Oil and/or chemical vapors
 - Excessive dust or explosive gases
 - Excessive heat or exposure to areas with high temperatures
 - Exposure to surges in electrical power
- This product must be installed according to the procedures in this document.

Installation

- This installation and use must comply with local regulations and codes.
- All personnel (including all temporary workers) must read and understand these instructions.

Warranty

This product is guaranteed free of defects in materials and workmanship for five full years from date of shipment. A full warranty statement is available upon request.

Safety Precautions

Throughout this document you may find cautions and warnings which are defined as follows:

- **WARNING:** Failure to follow the instruction could result in serious injury or damage to property.
- **CAUTION:** Failure to follow the instruction could result in minor injury or damage to property.

Read all of these safety instructions before using the equipment.

⚠ WARNING

Make sure that anyone working with the Lieto LED light fixture has read and understands these instructions.

⚠ WARNING

Failure to comply with Warnings and Cautions in this document can result in damage to property or serious injury.

⚠ WARNING

Always observe and comply with the Warnings and Cautions posted on the system equipment.

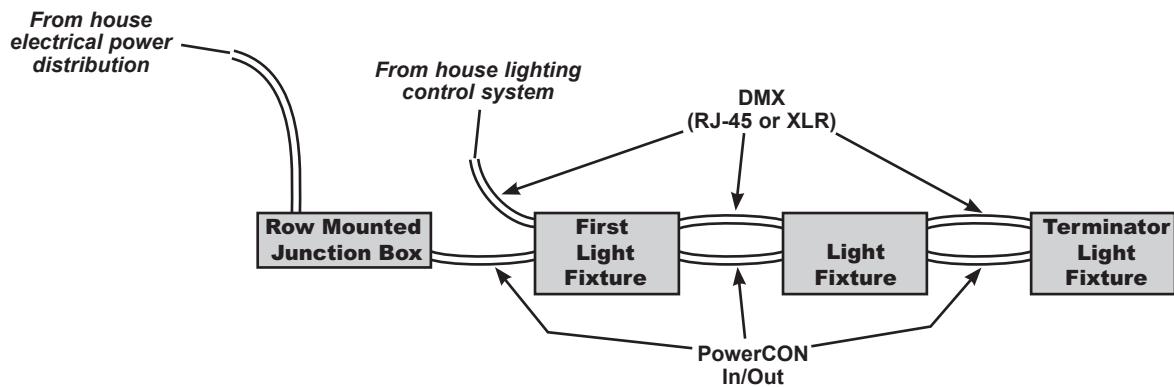
Light Fixture Electrical Connection

Lieto LED Light Fixture Electrical Connection

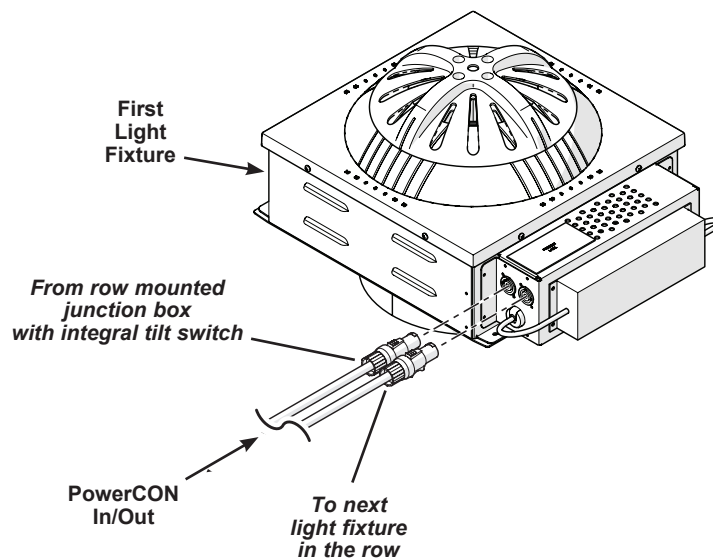
1. Ensure the light fixture power source is compliant with local electrical codes.
2. Connect the PowerCON and RJ-45 or XLR DMX cables to the corresponding ports on the first light fixture control box.
3. Connect the PowerCON and RJ-45 or XLR DMX cable to the next light fixture in the row.

Note: Ensure the supply voltage meets the Lieto LED light fixture requirements before securing connections. The Lieto light fixture requires non-dimmed mains power in the range of 100-240VAC 50/60Hz.

4. Power up the light fixture to ensure proper connections.



Daisy Chain Multiple LED Lights



Lieto LED Light Fixture Electrical Connection

Light Fixture Configuration

Initial Configuration

Note: Only the initial configuration procedure does not require an active power connection to the light fixture.

1. Remove the configuration tablet from the shipping container. Power-up and register the tablet by following the tablet initial start-up prompts.
2. After the tablet has been registered select the appstore icon, select the search button in the top right corner and type "Wenger" in the search bar, then select the orange search icon on the right side of the keyboard.

Note: Global installations may need to be set to the United States to search for the software.

3. Locate the Wenger programmer application then select "get". The app will begin to download and install on the tablet.
4. Insert the USB-B connector of the USB-A to USB-B cord in the corresponding USB-B port on the light fixture control box.
5. Insert the USB-A connector of the USB-A to USB-B cord in the corresponding port of the micro USB to USB adapter cord, then insert the micro USB connector of the adapter cord into the tablet's micro USB port next to the power/lock button.



Configuration Tablet



USB-A to USB-B



Micro USB to USB Adapter

6. Select the Wenger app on the tablet home screen.
7. Once the app is open/running the diagnostic information window for the currently connected light fixture is displayed, view the information and select "ok".
8. If a change to any of the fields is necessary, select the field, enter the new value, then select "set".

The adjustable fields are:

- Device Label (ex. Wenger fixture)
- DMX Address (ex. 1-512)
- DMX Value (Ex. 0-100% or 0-255)
- Dimming Curve (incandescent, linear, s curve, or exponential)
- DMX Terminator (on/off)
- DMX Loss (0-101% or 0-256)
- LED Power (0-100% or 0-255)

9. If required, select "set factory defaults" to reset the fields listed above to the original values assigned by the manufacturer.

Note: Pressing "set factory defaults" results in the LED power setting to be set to its maximum value of 255, which is approximately 170W output.

Although this output wattage will not adversely affect the Lieto fixture, the LED power value should be changed to the value correlating to the photometric layout output wattage for each fixture.

This is best done using the Wenger App, not the DMXcat app.

10. Repeat this procedure for each required light fixture.



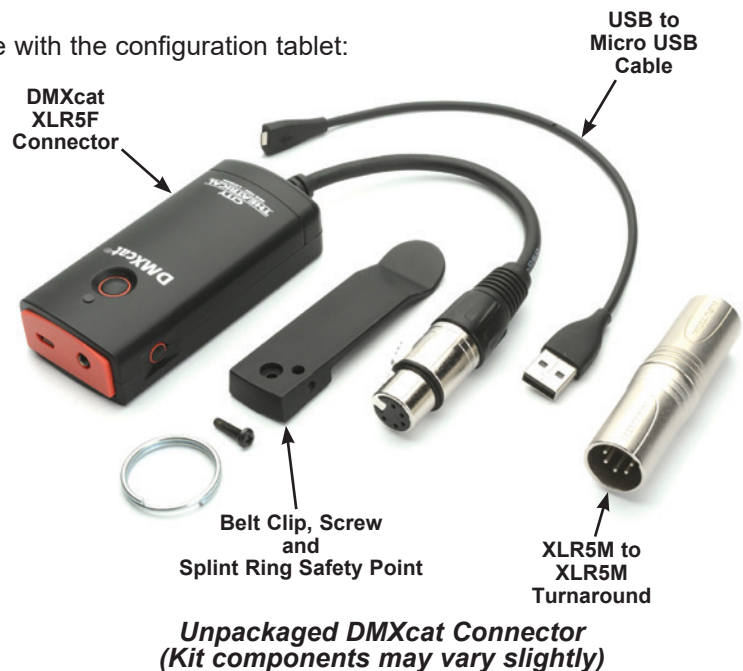
Diagnostic Information Window

Light Fixture Configuration (continued)

Configure the DMXcat® Connection

To configure the DMXcat® device to communicate with the configuration tablet:

1. Gently insert the DMXcat's 5-pin XLR jack into the 5-Pin XLR panel mount plug with the protruding pins located on the light fixture control box.
2. Turn on the configuration tablet, once the home screen is displayed select the appstore icon.
3. Select the search icon in the upper corner of the screen, type "DMXcat" in the search bar then select the orange search icon, select "get" to download the DMXcat app by City Theatrical.
4. Select the empty circle on the bottom of the screen to return to the tablet home screen, then select the DMXcat app.
5. Once the app is open select the settings icon located in the top right corner of the screen, then select "device list" located under the bluetooth device section.
6. Locate the required DMXcat serial number and select it to establish a connection between the configuration tablet and the device.
7. The LED status indicator on the device will continuously illuminate green once the connection is established.
8. Configure the fixture to the required DMX/RDM address based on the site's requirements.
9. If required, select and hold down the Link icon in the lower left corner of the screen to disconnect the DMXcat device from the configuration tablet. Wait for the LED status indicator to flash four times before disconnecting the device from the fixture.
10. If additional information is required select the DMXcat info icon to view the information provided by City Theatrical while using the configuration tablet.



Lieto LED Light Fixture Communication

The Lieto LED light fixture is compatible with the following communication networks:

- ANSI E1.11-2008 (R2013) USITT DMX512-A
- ANSI E1.20-2010 RDM over DMX512 Networks
- ANSI E1.37-1-2012 Additional RDM Message Sets

The configurable settings are made via RDM commands, serial TTL commands, and the tablet programmer.

On-board fixture monitoring such as temperature, power cycles, and hours of operation are also continuously recorded.

Light Fixture Configuration (continued)

DMX Address Information

| The Lieto White Fixture requires 1 DMX Channel | The Lieto Color Fixture requires 4 DMX Channels |
|--|---|
| Channel 1: Intensity (0-255) | Channel 1: Red (0-255) |
| | Channel 2: Green (0-255) |
| | Channel 3: Blue (0-255) |
| | Channel 4: White (0-255) |

LED Power Settings Chart (White LED Light Fixtures Only)

| Wattage | Power Setting (0-255) | Wattage | Power Setting (0-255) |
|---------|-----------------------|---------|-----------------------|
| 30 | 0 | 110 | 146 |
| 40 | 18 | 120 | 160 |
| 50 | 35 | 125 | 167 |
| 60 | 54 | 130 | 175 |
| 70 | 70 | 140 | 190 |
| 75 | 80 | 150 | 205 |
| 80 | 90 | 160 | 227 |
| 90 | 110 | 170* | 255* |

*See step 9 on page 4.

Light Fixture Operation

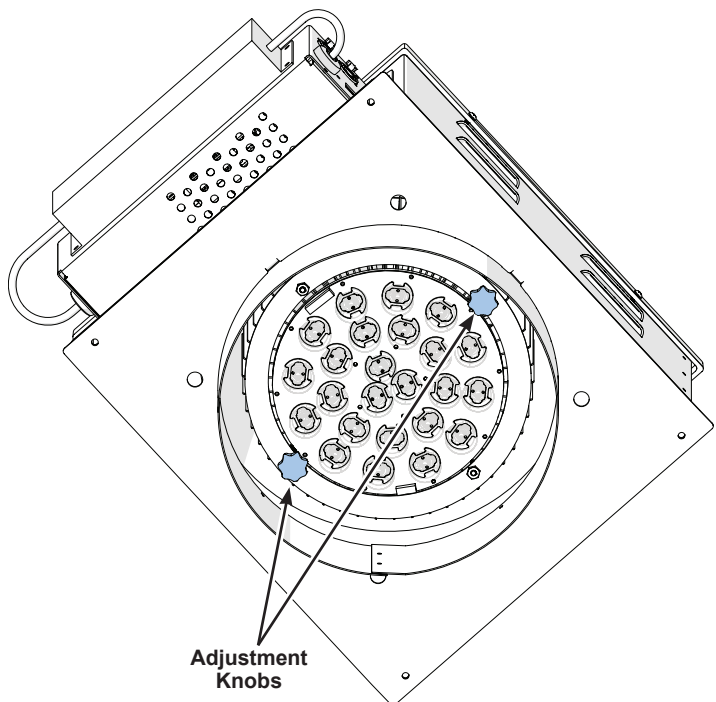
Adjustment and Aiming

To adjust the angle and orientation of the LED array, use the adjustment knobs located in the underside of the light fixture.

1. Loosen the adjustment knobs to change the LED array angle and orientation.
2. Use the knobs, to orient the LED array to the desired angle.
3. Tighten the adjustment knobs to secure the LED array in the new position.

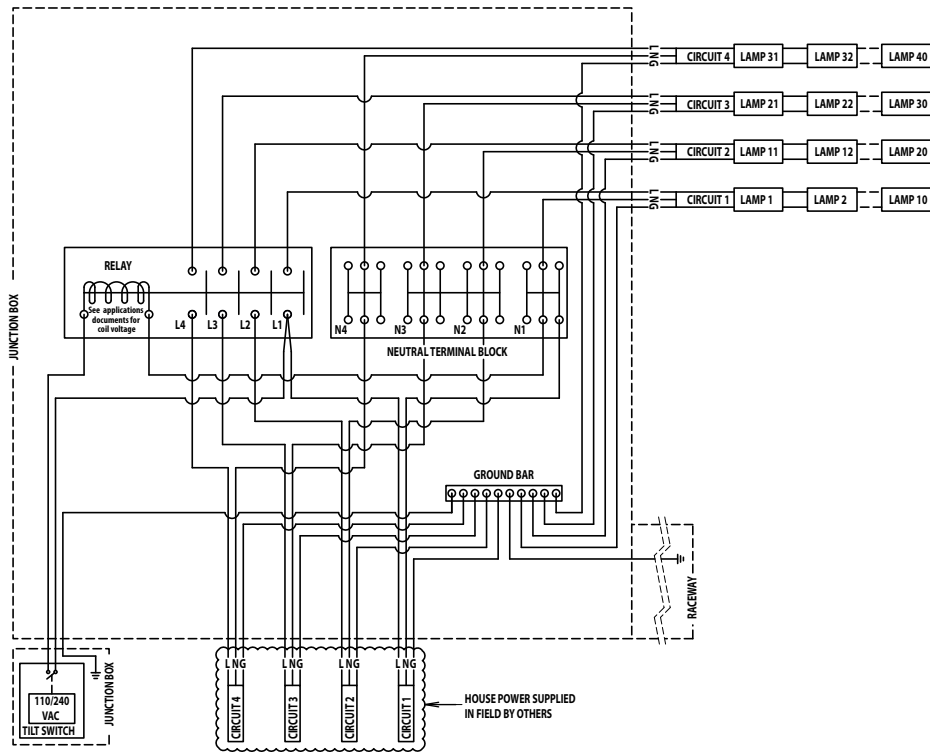
⚠ CAUTION

Only tighten the adjustment knobs by hand. Use of tooling could cause damage.

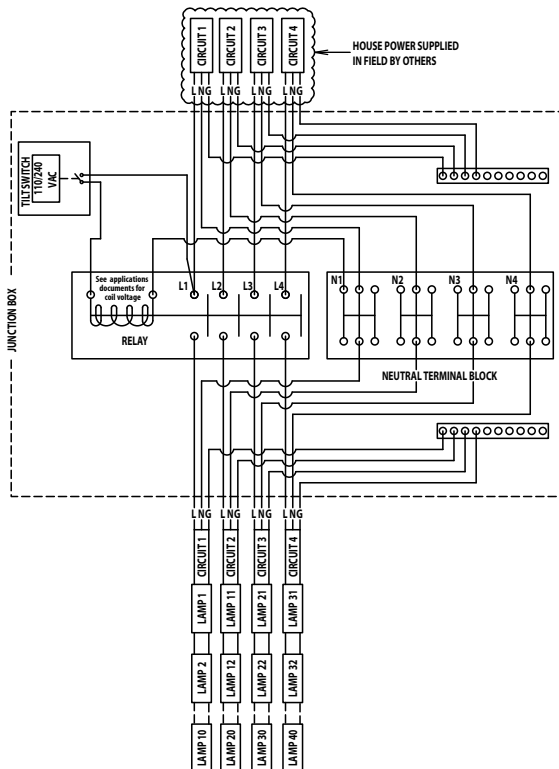


Schematics

Lieto LED Light Fixture Electrical Schematic (Diva® Acoustical Ceiling)



Lieto LED Light Fixture Electrical Schematic (Maestro® Acoustical Ceiling)



Additional Information

Care and Maintenance

⚠ WARNING

The light fixture must be disconnected from the site's power supply before any maintenance is performed.

Periodically remove dust and debris from the surface and lower light diffuser for optimal appearance and performance.

Storage Information

The light fixture must be kept in the original shipping container in a clean and dry location if not installed/used.

The light fixture must be stored in a controlled environment, with adequate air circulation, and be protected by sunlight, dirt, water, and condensation.

The optimal storage temperature is: 32°F to 125°F (0°C to 51.67°C).

Troubleshooting

Introduction

This document provides the procedural information required to Troubleshoot a Wenger Lieto LED Fixture in the field. The procedures will detail the steps required to accurately determine if a fixture requires further testing/maintenance at a separate location.

CAUTION

These procedures should be performed by a qualified person to avoid damage to the fixture.

Verify Power Distribution

Follow these steps to determine if there is an AC power issue with the fixture.

1. Visually inspect the fixture power supply for any damages. The power supply is located on the outside of the control box.

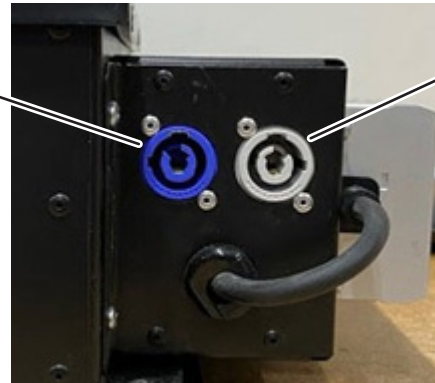
Power Supply



2. Visually inspect the incoming/outgoing AC power wiring and PowerCON Input (Blue)/Output (Gray) ports for any damage.
3. Disconnect any downstream AC power wiring from the gray power output.
4. Disconnect DMX communication wiring, both IN and OUT of the fixture.
5. Energize the AC Power to the fixture.
6. The fixture should illuminate and be on at full intensity, as the fixture default programming is to be at full intensity in the presence of AC Power and no DMX Communication.

Input Port

Output Port



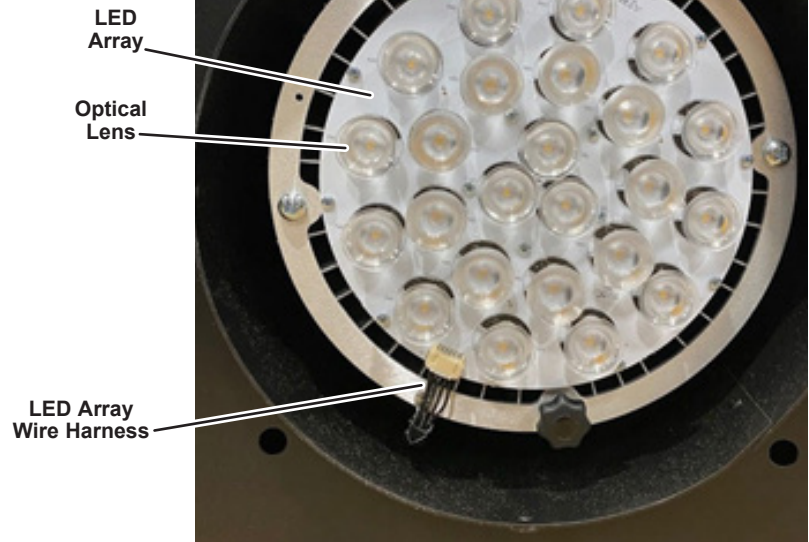
Troubleshooting (continued)

Verify Power Distribution (continued)

7. If the fixture does not illuminate, confirm the installation site is providing AC power as required by the fixture (100/240 VAC).

Do not proceed to the next step if power is not being distributed properly.

8. Visually inspect the LED array, LED array wire harness, and optical lenses for any signs of damage. The array, wire harness, and optical lenses are located on the bottom of the fixture secured to the heatsink.



9. Turn off AC power to the fixture and reconnect the downstream AC power wiring to the remaining fixtures.
10. Re-energize the AC power and check the downstream fixtures to see if they are at full intensity as well.
11. If the fixture passes these checks, proceed to verify DMX communication.
12. If the fixture is not functioning, contact a Wenger Corporation Lighting Specialist.

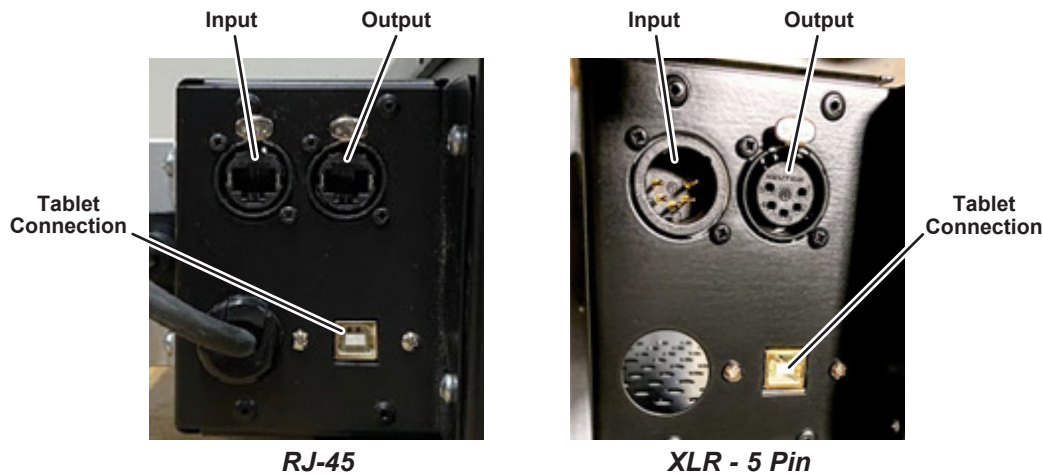
Troubleshooting (continued)

Verify DMX Communication

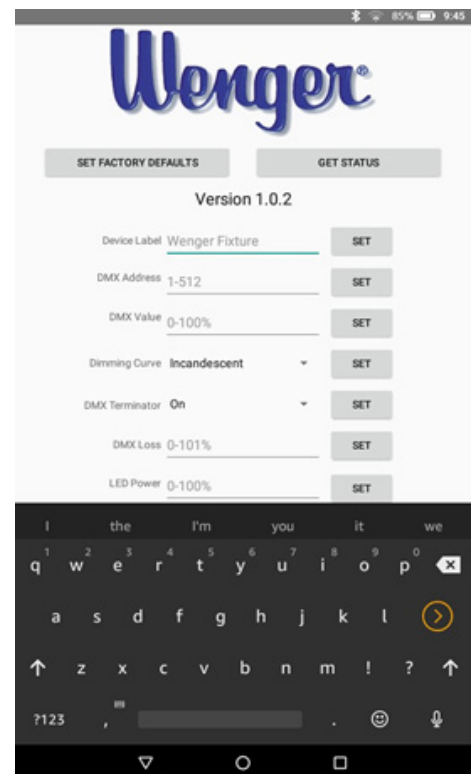
Follow the steps below to determine if there is a DMX communication issue with the fixture.

Note: this procedure can not be performed until AC power is connected to the fixture and functioning correctly.

1. Disconnect the fixture from the DMX lines (Input/Output) and observe the fixture operation.
The fixture should go to full power/output.
2. Visually inspect the DMX communication input receptacles (RJ-45 or XLR) for any visible signs of damage such as broken/bent pins or prongs.



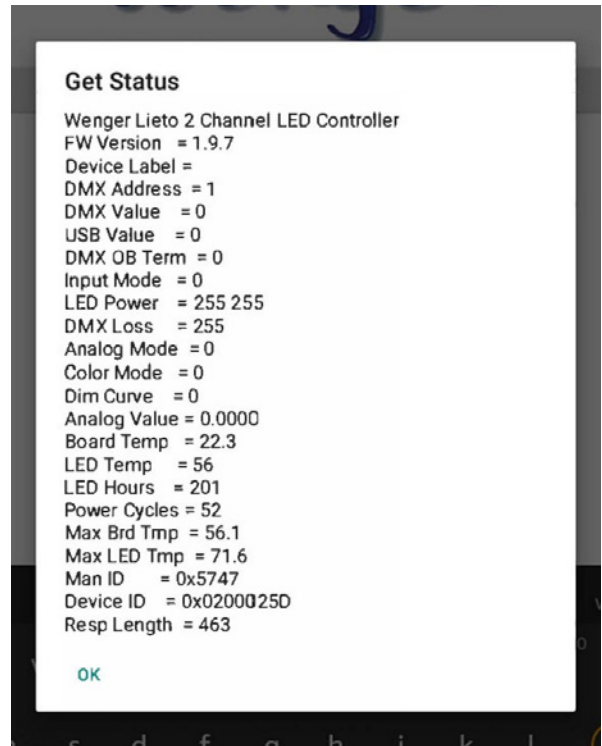
3. Visually inspect the on-site DMX communication wire for any physical damages.
4. Connect **ONLY** the input DMX line and check for DMX control (dimming operation) utilizing DMXcat.
5. Change the DMX address of the fixture using the Wenger app or a RDM device (DMXcat).
6. Verify that the DMX address was recorded in the fixture using either the "GET STATUS" command using the Wenger app or a RDM device (DMXcat).
7. If the fixture does not receive the change of DMX address select "SET FACTORY DEFAULTS" using the Wenger app on the tablet, then try to set the DMX address again.



Troubleshooting (continued)

Verify DMX Communication (continued)

8. If the fixture does not respond to a change of address, select "GET STATUS", confirm the output is similar to the following image, and select "OK".



9. Connect any downstream fixtures and confirm DMX operation of remaining fixtures.
10. Ensure the sites DMX communication wire is terminated/ended with a resistor at the end of the DMX communication line.
11. If the fixture is not responding to DMX communication, contact a Wenger Corporation Lighting Specialist.