brightline®

Micro-T

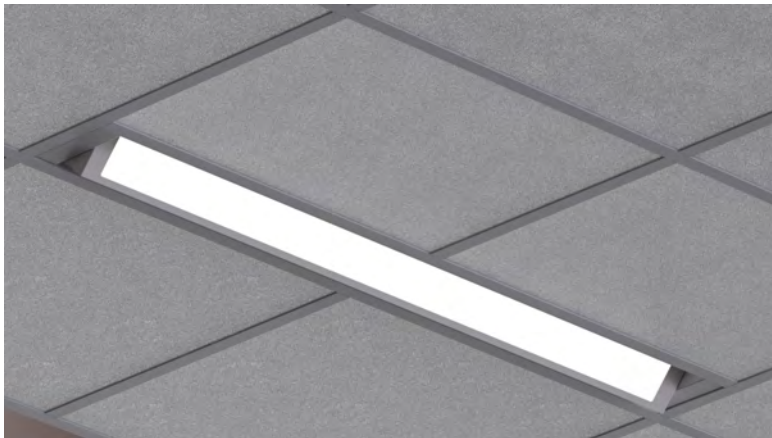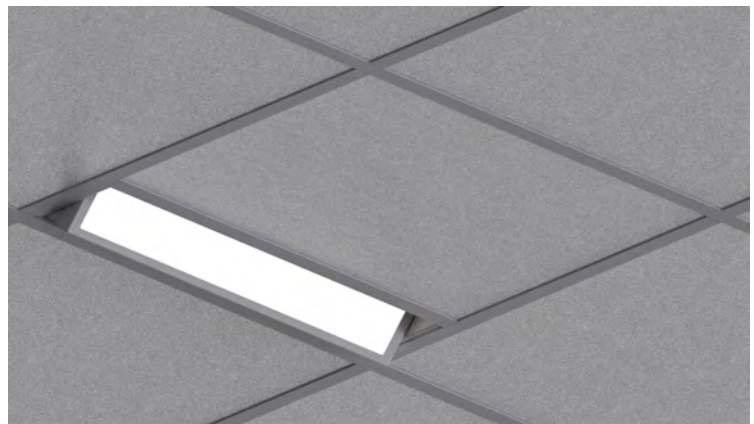## Operating Instructions

Safety

• Fixture installation should be performed in accordance with local and national codes.
  All fixtures must be properly grounded.

• To prevent fire or electric shock, do not expose the fixtures to water or moisture. Micro-T
  fixtures are listed for indoor use only.

• Do not attempt to dim a non-dim fixture. Do not attempt to operate without lamps installed; this
  could damage the ballast.

• Do not attempt to change the lamps on a fixture that is energized or to work with your hands near
  an exposed socket that is energized.

• A qualified technician should perform service on fixtures. Do not remove the ballast cover until the
  unit has been de-energized.

• In case of lamp failure:
    1. Turn the fixture off.
    2. Wait 30 seconds for the ballast to reset.
    3. Install the new lamp(s).

Owner's Record

• The serial number of this product can be found in the top of the fixture. You should note
  the model number and the serial number in the space provided and retain this book for future
 reference as a permanent record of your purchase.

 **Model No.**_____

  Serial No._____

  Date of Purchase_____

Product Description

• The Brightline Micro-T models are single or multi-cell 55-watt, energy-efficient, videoconferencing
  fixtures that mounts as a replacement for ceiling tiles in a T-bar suspended ceiling grid. These fixtures
  combine high-frequency electronics with a state-of-the-art optical system to produce a soft, full-spectrum,
  flicker free light source.
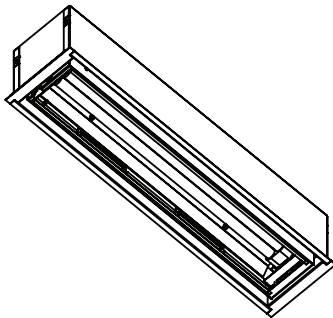
2' Micro T
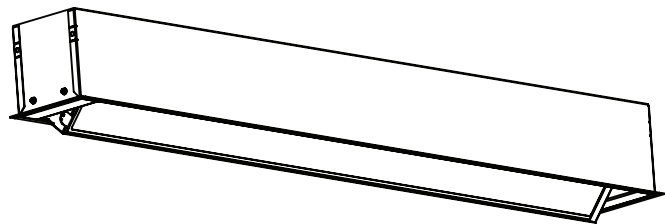
4' Micro T

Housing:
20-gauge (.0359) formed, cold rolled steel sheet-metal construction. See finish note.

Reflector:
24-gauge (.020) formed aluminum sheet-metal construction. White optics finish.
95% specular reflectance.

Ballast:
Power factor = >.97 Class "A" sound rating and THD: <10%.

Non-Dim:
120 VAC/60 Hz, 230 VAC/50-60 Hz, and 277 VAC/60 Hz.

Dim:
Phase-Control: 120 VAC/60 Hz, 230 VAC/50-60 Hz, and 277 VAC/60 Hz.
Digital: 120 VAC/60 Hz, 230 VAC/50-60 Hz., and 277 VAC/60 Hz.
DMX interface available for all voltages.
Please contact factory for exact ballast specification and custom configurations.

Lamp: 55W/DL
3000 K - 82 CRI, 10,000 hours
3000 K - 96 CRI, 10,000 hours
3500 K - 82 CRI, 10,000 hours
4100 K - 82 CRI, 10,000 hours

Studioline
3200 K - 85 CRI, 8,000 Hours
5600 K - 85 CRI, 8,000 Hours

Lamp Socket:
2G11 4-pin. Molded white high-strength thermoplastic. Push wire connections for 18 gauge leads.

Finish:
Low glare, polyester poweder coat. White, black or custom finish available.

Optional Accessories:
Fixture screens, and prismatic lens.

Labels:
UL, cUL approved. CE.

Installation

1. Unpack the fixtures. The control screens and lamps may be packed with the fixtures or separately. To prevent damage, do not attempt to install the fixtures with either the lamps or the control screens in place.

2. Prepare the line voltage wiring to the fixtures. You may want to partially install the power wiring before the fixture is placed in the t-track, if access is difficult. Insure that the supply voltage matches that required by the ballasts. To install the power feed, loosen the screw holding the power entry plate and remove the plate (Figure 1). Remove the knockouts as needed and install the correct type of power cabling and strain relief (not provided). Connect the wires from the feed using wire-nuts, observing the wire color coding, and re-install the knockout plate. Brightline fixtures intended for the North American market use black/white/green wires respectively for line/neutral/ground; fixtures shipped to other locations use brown/blue/green-yeilow for line/neutral/ground. In most cases, it is useful to install sufficient slack in the power cable so that the fixture may be moved to an adjacent tile opening without having to extend the wiring.
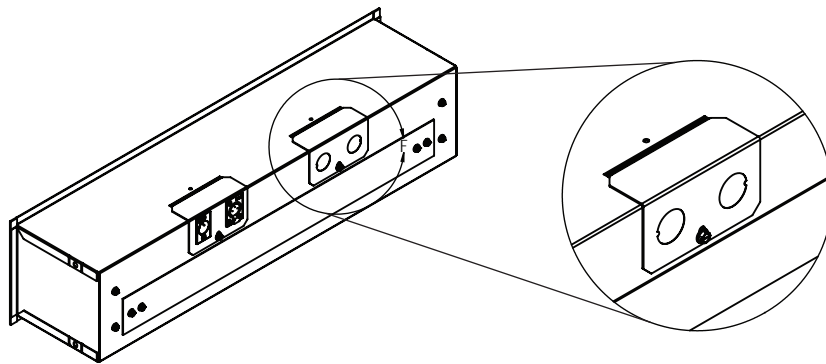

Figure 1

3. If the fixture requires digital control, the fixture will have locking XLR-type plugs for the control cables. Install the control wiring above the t-track grid. Male and female plugs are installed into receptacles (Figure 2) on each fixture; as they are wired in parallel, the control wiring can be daisy-chained. See the Control Wiring section.
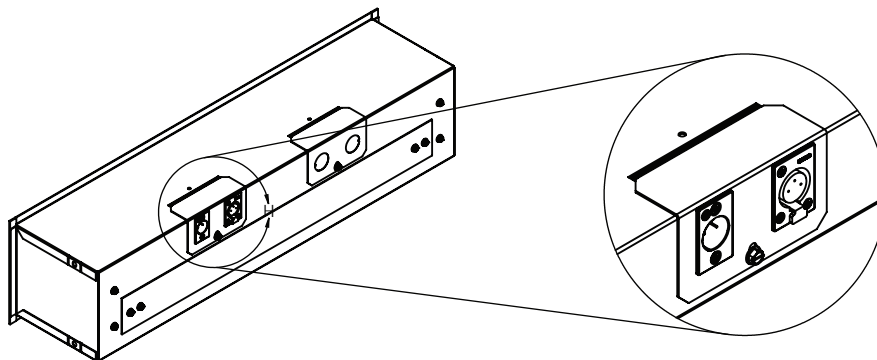

Figure 2

4. Prepare the t-track to receive the fixtures. Micro-T fixtures are either a nominal 6" x 2' (155mm x 1220mm) or a 6" x 4' (155mm x 1220mm) size. It may be necessary to add additional track sections and/or prepare differently sized ceiling tiles. For ease of installation, a minimum of 8" (200mm) of clear height above the track recommended. Make sure that the t-track is sufficiently braced to accept the weight of the fixtures; these units are heavier than typical fixtures.

5. Place the fixtures into the correct openings in the ceiling grid in accordance with plans provided by **Brightline** or the local architect or engineer. ***Brightline*** *fixtures are not Insulated Ceiling (IC) rated. Maintain the proper distance from insulation.*

6. Install "safety wires" on the tabs on the side of the fixtures and attach to the building structure, in compliance with local codes (Figure 3). **Brightline** recommends not relying on the t-track alone to hold the weight of the fixture.
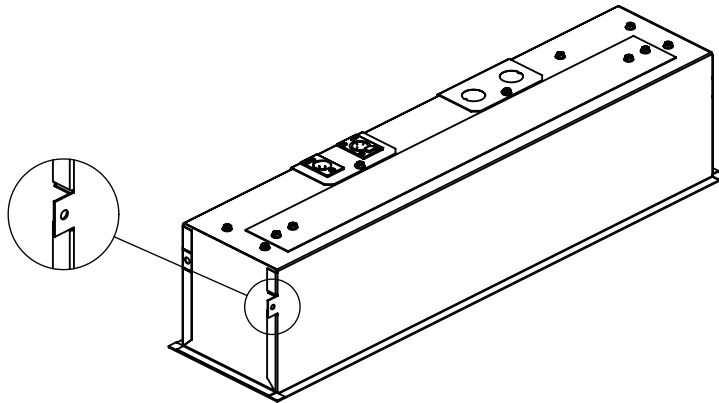

Figure 3

7. Complete the installation of the power (and control, if required) wiring. See the Riser Diagram section.

8. With the power off, install the lamps (Figure 4). Make sure they are firmly seated in their sockets.
    Note: The socket's locking tabs will snap into the indentations on the base of the lamp.

Clip

Lamp

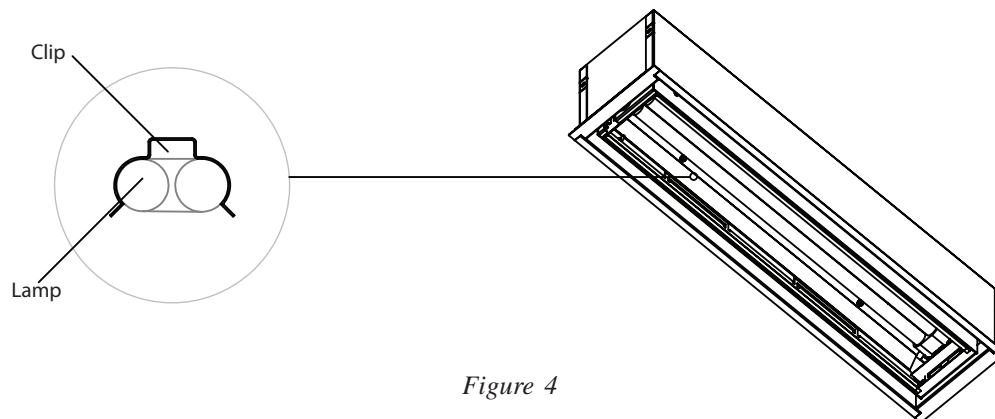*Figure 4*

9. Install the correct control screens (Figure 5).
    a.) Insert the end of the control screen into the socket end of the carriage.
    b.) Push the opposite end of the control screen up into the carriage.
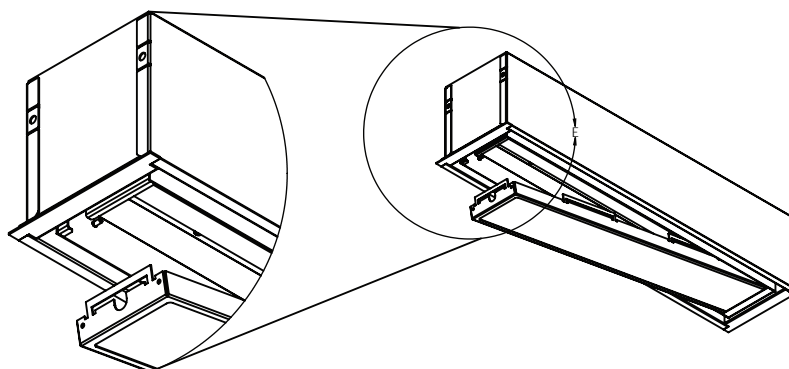   c.) Release the control screen and the retaining spring will secure the control screen in the carriage.

Figure 5

10. Aim the fixture carriages in compliance with directions provided by **Brightline** or the specifier.

   Manual rotation on a single-axis.
   a.) Rotate the carriage to the desired position (Figure 6).
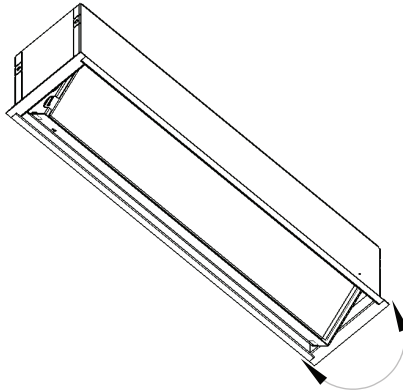
Figure 6
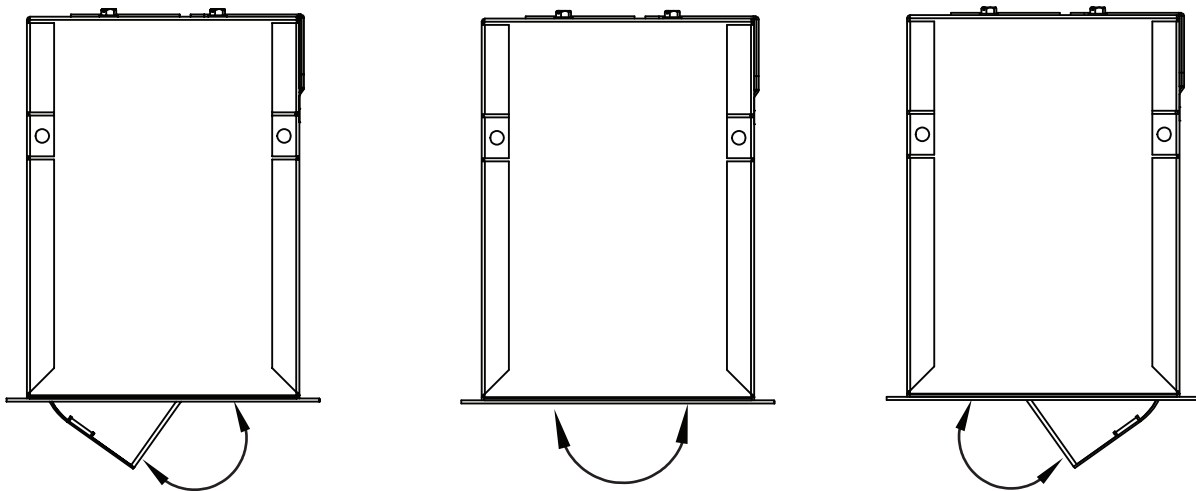
Figure 7

Motorized rotation on a single-axis.
See the motorized control system documentation for further information.
Warning: *Manually rotating lamp carriage can cause damage to both the motor and the drive systems*
   Do not use lamp carriage as an installation handle.
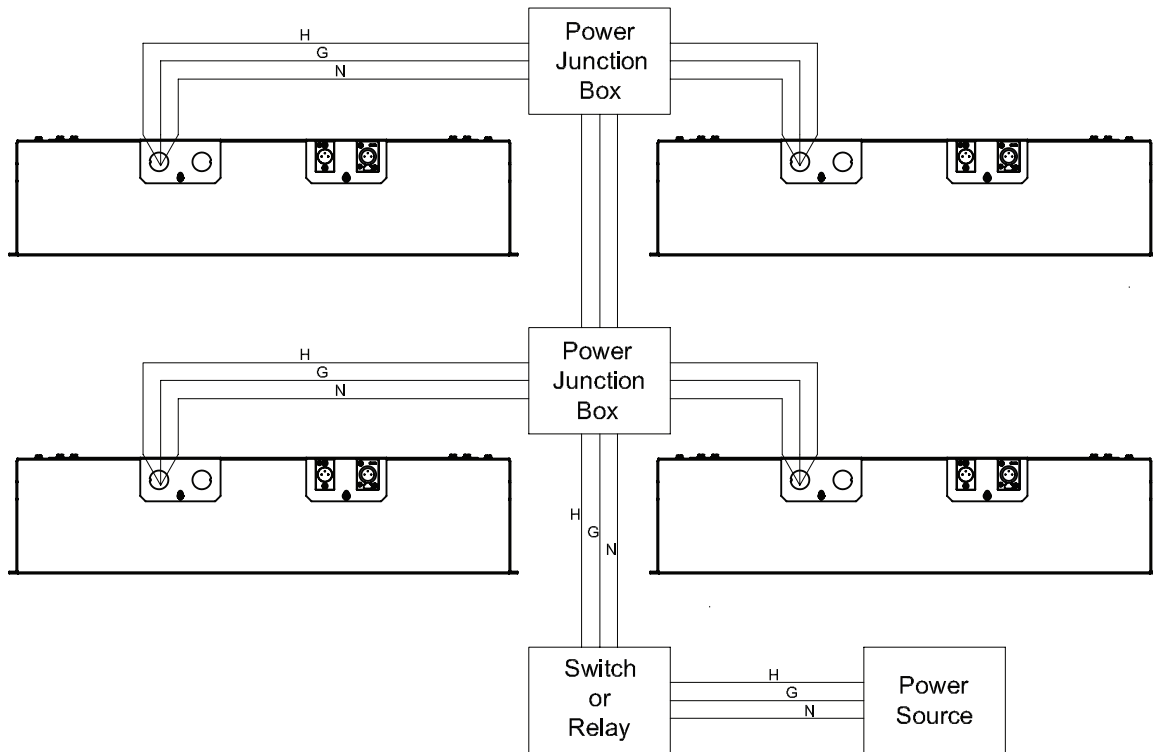
Non-Dim (Switched)
• The fixture may be controlled by a local on/off switch, or by a relay panel.

• The fixture is wired to a source of power (Hot/Neutral/Ground) wiring only.

• H = Constant Hot, N = Neutral, G = Ground.
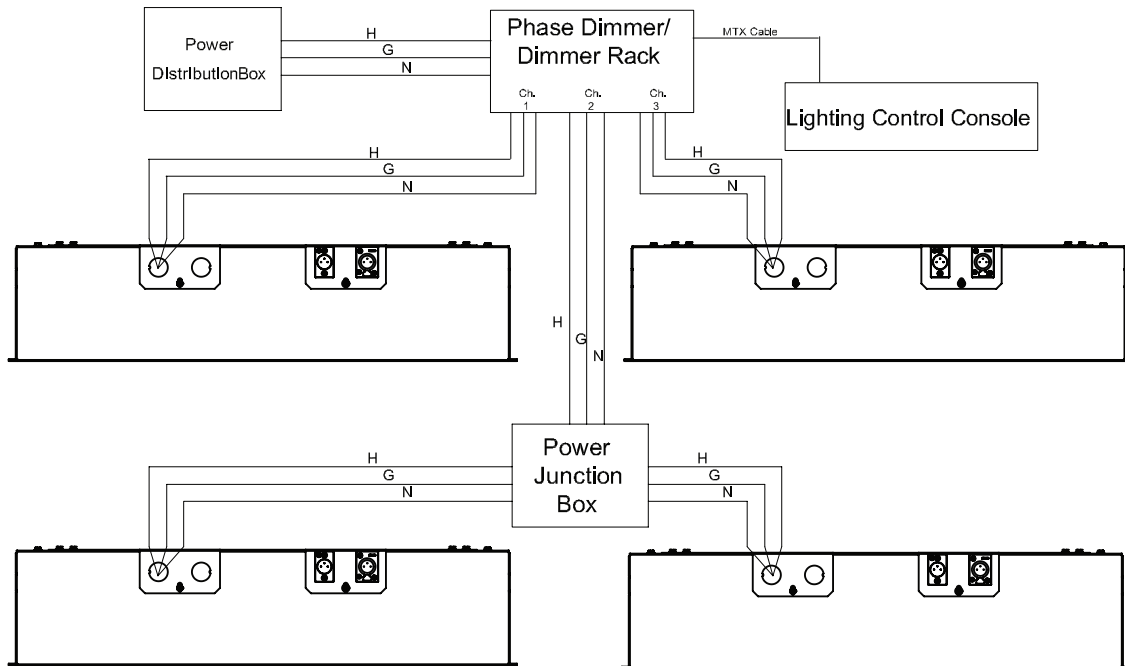
Phase-Control Dimmed (two-wire)
• Connect your fixtures to the output of Forward Phase-Fired dimmers. Most dimmers are of this type: "SCR" and "SSR" dimmers work in this way, as do most architectural dimmers. The use of Reverse Phase-Fired dimmers is not recommended. If it is possible to set the type of load the dimmer will control, configure it as a two-wire fluorescent type; or choose one intended for a two-wire fluorescent ballast.

• H = Constant Hot, N = Neutral, G = Ground.

7

Phase-Control Dimmed Lutron (three-wire)

- These units will typically have EcoSystems ballasts. They are designed to be controlled by Lutron device utilizing ECO-System control protocol. The 3-Pin XLR connectors are for the low voltage digital control.

- At the ballast, the switched feed wire is black in color and the dimmed feed wire is orange. **Brightline** recommends maintaining a consistent wire color-coding scheme from the controller to the fixture.

- Choose controllers that are intended for this type of ballast.

- DH = Dimmed Hot, SH = Switched Hot, H = Constant Hot, N = Neutral, G = Ground.

    to be controlled by fluorescent controllers that provide a dimmed "hot" wire and a switched "hot" wire, in addition to neutral and ground.

Power Supply

Power Supply

DMX -DALI 4 Channel Converter
Ch. 1   Ch. 2   Ch. 3   Ch. 4

MTX Cable

DMX Wall Mounted Control Panel

DTX Cable

DTX Cable

DTX Cable

DTX Cable

Power Junction Box
(Typical)

H
G
N
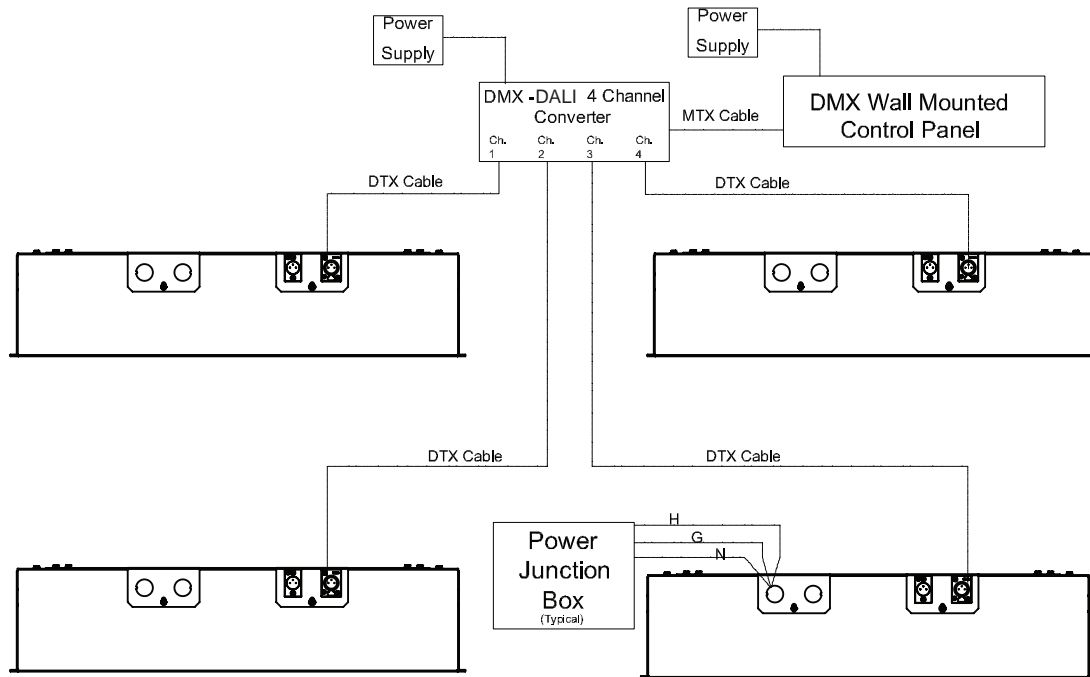
Note:
Power wiring for one
fixture shown for clarity

DMX Dimmed
• A DSI (Digital Serial Interface) signal controls these fixtures. The fixtures will function (but not dim) in the absence of a control signal.

• A DMX to DSI converter may have been provided by **Brightline** as part of your Order. The Converter is wired to a source of DMX; and provides four DSI outputs with XLR receptacles. The fixtures cannot be directly controlled by DMX. See the instruction manual provided with the DMX to DSI converter.

• The control signal is connected to the fixture through the XLR-type plug on the top of the unit. As this is low voltage wiring, it may not be necessary to install the control wiring in conduit, subject to the requirements of local code. If they were specified, the DSI control cables may be provided as part of your Order. Two receptacles are typically provided to allow the control wiring to be daisy-chained.

• All the fixtures wired on a DSI control line will dim to the same intensity.

• H = Constant Hot, N = Neutral, G = Ground.

Digital Dimmed (DALI with Wall Controller) Riser Diagram

DTX Cable

DALI BUSMaster 120V AC to 12V DC (Included with Busmaster)

DALI Push Button Control Panel

DTX Cable

DTX Cable

DTX Cable

DTX Cable

Power Junction Box (Typical)

H
G
N

Note:
Power wiring for one
fixture shown for clarity.

DALI Control

- A DALI (Digital Addressable Low-voltage Interface) signal controls these fixtures. The fixtures will function (but not dim) in the absence of a control signal.

- The control signal is connected to the fixture through the XLR-type plug on the top of the unit. As this is low voltage wiring, it may not be necessary to install the control wiring in conduit, subject to the requirements of local code. If they were specified, the DALI control cables may be provided as part of your Order. Two receptacles are typically provided to allow the control wiring to be daisy-chained.

- As each ballast is assigned an individual address, fixtures on a DALI control line may be dimmed to different intensities.

- The installation of DALI control wiring must comply with a specific set of rules. See the literature that is provided with your DALI controller, or contact **Brightline** for details.

- H = Constant Hot, N = Neutral, G = Ground.

DALI Push Button
Control Panel
(OPTIONAL)

DTX Cable

DALI
BUSMaster
120V AC to
12V DC
(Included with
Busmaster)

RS-232 Cable

A/V Processor
or P/C

DTX Cable

DTX Cable

DTX Cable

DTX Cable

Power
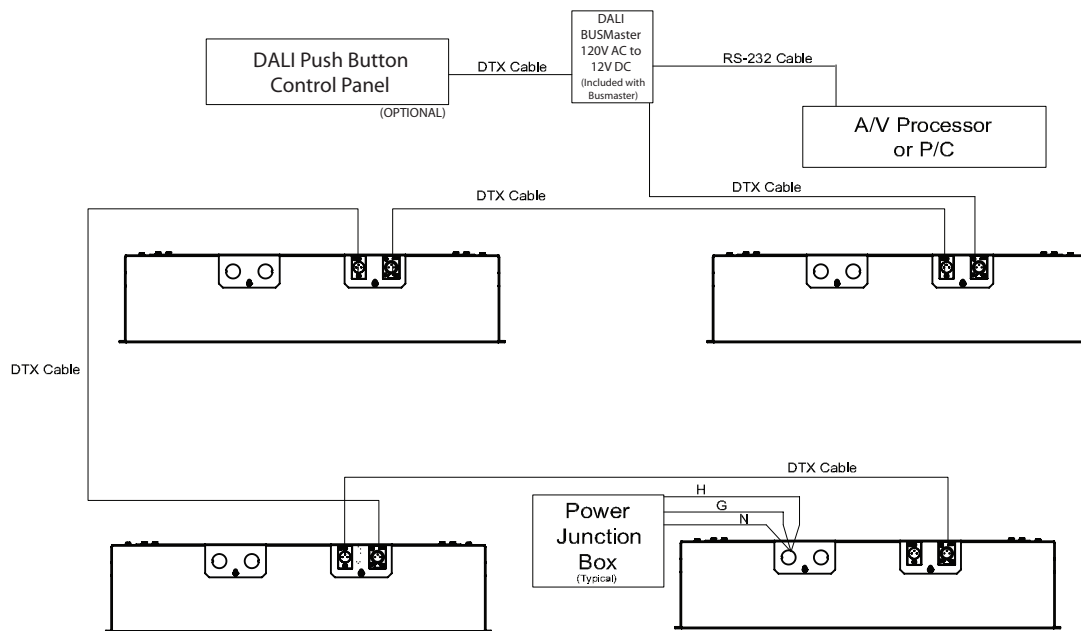Junction
Box
(Typical)

H
G
N

Note:
Power wiring for one
fixture shown for clarity.

DALI Control
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Trouble Shooting Guide

Problem	Possible Cause	Solution
Lights go to full but do not dim to minimum.	1. Ballasts are not proper grounded. 2. Lamps are too old.	1. Check to see that the fixture is properly grounded. 2. Relamp the entire fixture.
Lights flicker or drop out at low end.	Defective or damaged lamps.	Test with lamps from a known good fixture; replace bad lamps as required.
Lights are flashing or strobing.	Wrong Voltage for the ballast installed.	Verify that the supply voltage is correct for the ballast installed.
Lamps are not at the same light level.	Mixture of lamp ages or color temeratures.	Check that all the lamps are of the same type and age.
Ballast buzzes or hums.	Defective ballast.	Identify the location of the buzz and replace the ballast if necessary.

Maintenance

• The fluorescent lamps provided with the fixtures are rated for up to 10,000 hours. However, as with all lamps, there will be some drop-off in intensity as they approach their rated life. A conservative user may want to re-lamp at 75-80% of the rated life. We recommend that as the lamp intensity begins drop off, or when the life expectancy is reached, all the lamps in a room are replaced as a group.

• The lamps provided with your brightline fixture have been selected to provide the correct operating parameters for your video system. All lamps should be replaced with ones having an identical model number and manufacturer. It may be necessary to perform a new white-balance on your camera(s) after re-lamping. Call your **Brightline** dealer or representative if you need assistance in purchasing replacement lamps.

• For optimal performance, Season lamps for 12 hours prior to dimming.
Note: Approximate initial Lumens after 100 hours of operation.

• Dispose of used fluorescent lamps in conformance with local regulations.

• For optimal fixture performance, it is necessary to keep the lamps and reflectors clean. Use a dry, non-abrasive cloth to remove dust. Avoid the use of materials that might scratch the reflector.
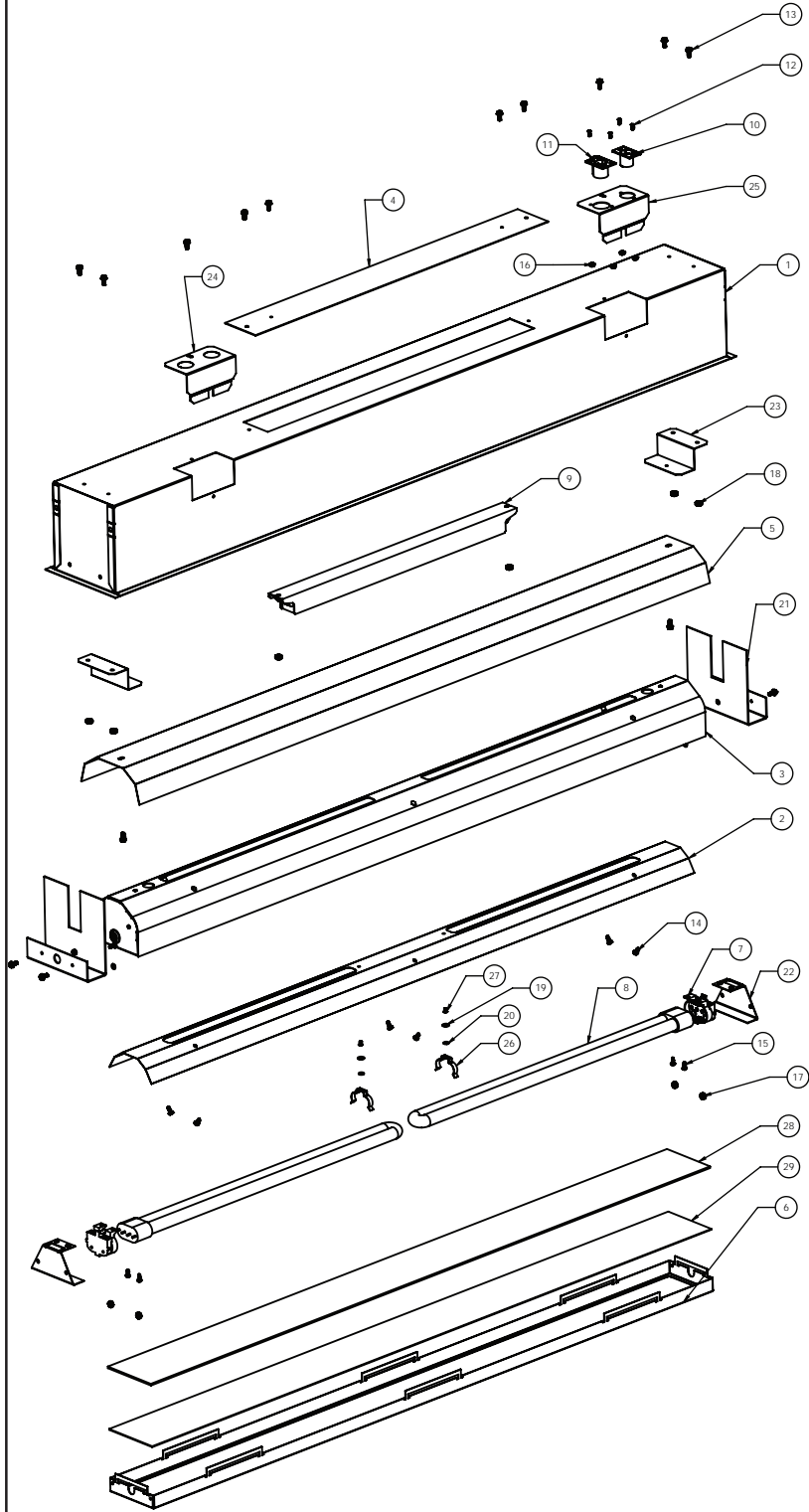
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	001-173-007	MICRO T 4FT. HOUSING	1
2	003-148	MICRO T, 4FT CARRIAGE REFLECTOR	1
3	021-464-007	MICRO T, 4FT LAMP CARRIAGE	1
4	021-465-007	MICRO T, 4FT BALLAST PLATE	1
5	021-466	MICRO T, 4FT DOME	1
6	022-195-007	MICRO T, 4FT SCREEN FRAME	1
7	006-106	2G11 LAMP HOLDER W/FEET	2
8	009-55W-32KSP1	55W, 3200 STUDIOLINE 2G11 BASE	2
9	008-151	BALLAST, DIGITAL, 120/277V, 2X54, UNIVERSAL DALIPRO	1
10	014-283	3 PIN XLR CONNECTOR, MALE	1
11	014-286	3 PIN XLR CONNECTOR, FEMALE	1
12	010-147-005	SCREW, 4-40, .31, PHIL, FLAT	4
13	010-168-005	SCREW,8-32 X 3/8" SELF-TAPPING HEX WASHER HEAD	16
14	010-145-007	SCREW, 6-32, .375, PHIL, PH, WH	8
15	010-121-005	SCREW, 4-40, .375, PHIL, PW	4
16	011-104-005	NUT, 4-40, KEPS, ZINC	4
17	011-105-005	NUT, 6-32, KEPS, ZINC	4
18	011-115-006	HEX NUT, #8-32, KEP	6
19	012-115	WASHER, FLAT, .149 ID, .375 OD, .032 THK	2
20	012-136		4
21	021-467-007	MICRO T, 4FT END BRACKET	2
22	004-117-007	1 LAMP SOCKET BRACKET	2
23	021-468	MICRO T Z BRACKET	2
24	021-460	RIGHT ANGLE POWER PLATE	1
25	021-461	RIGHT ANGLE XLR PLATE	1
26	020-101	LAMP SUPPORT T5 BIAX	2
27	015-122	POP RIVET .125" DIA., .126"-.187" GRIP	2
28	COVER		1
29	Film		1

WARRANTY

Brightline guarantees all its products to be free from defects in materials and workmanship for a period of one (1) year from the date of shipment.

PROCEDURES

If any product is found to be unsatisfactory under this warranty, the buyer must notify **Brightline** immediately. Once a course of action has been determined, if it is necessary to return the product to **Brightline** a Return Authorization (RA) will be issued. Ship the product directly to **Brightline**, 580 Mayer Street, Building #7, Bridgeville, PA 15017. The RA number should be marked on the shipping carton. The unit will be replaced or put into proper operating condition, free of all charges. The correction of any defects through repair or replacement by **Brightline** shall constitute fulfillment of all obligations and liability of **Brightline** to the buyer under this warranty and the contract of sale.

DISCLAIMERS

Brightline is not responsible for damage to its products caused by improper installation, maintenance, or use; by improper electrical hookups; or by unauthorized repairs.

Failure to notify **Brightline** of unsatisfactory operation or any improper or unauthorized installation, maintenance, use, repairs, or adjustments shall terminate the warranty and **Brightline** shall have no further responsibility under the warranty.

Brightline shall not be liable for special or consequential damages in any claim, action, suit, or proceeding arising under this warranty or contract of sale, nor shall **Brightline** be liable for claims for labor, loss of profits or goodwill, repairs, or other expenses incidental to replacement. **Brightline** makes no other warranty of any kind whatsoever, expressed or implied, and all implied warranties of merchantability and fitness for a particular purpose that exceed the obligation specifically described in this warranty are hereby disclaimed by **Brightline** and excluded from this agreement.

All shipments, unless otherwise noted, are F.O.B. factory.

The customer is advised to inspect for shipping damage, apparent and/or hidden. If detected, notify the transportation company and file your claim.

580 Mayer Street, Building #7, Bridgeville, PA 15017 • phone 412.206.0106 • fax 412.206.0146

www.brightlines.com

Notes