# VersaCap Lighting System



# Installation Instructions For Single Universe Lighting Systems

**Manual Version: V1.1**

## Installation Instructions For Single Universe System

### Introduction

The Versa Cap LED Lane Cap Lighting System is a high output LED lighting system that provides effects lighting on small gutter capping for each bowling lanes. The system uses LED light strips with R(red), G(green), B(blue) LEDs, signal converters and a key pad controller.

### System Includes

The VersaCap lighting system includes: LED light strips, pre-programmed key pad controller, control cables, pre-programmed signal converters, mounting track, impact resistance protective covers, power and control cables.

### Signal Converter

The signal converter provides the control signal to the LED strips. The signal converters have been pre-addressed so do not change the setting.

### Power Supply

The power supply is a 12V power supply that accommodates input voltages ranging from 100 VAC to 240 VAC. It connects to the converter and a electrical power outlet. The LED lane power supplies are line voltage 100-240 volt 50/60Hz to 12v DC to the signal converter.

### Key Pad Controller

Key pad lighting controller with pre-programmed shows.

### LED Strip

The LED Strip is includes red, green and blue LEDs. It is powered and operated by the signal converter.

### Starter Track

The starter track is the first piece of track to be installed at the foul. This track has a small opening to for the power cable connector. The opening must be install closest to the foul line.

### Track

The track is used to mount the LED strip and as a conduit for the power cable.

### Cover

The high strength cover is installed on the track and used to protect the LED strip and track.

### Power Cable

Provides power to the foul line end of the LED strip.

### DMX Signal Cable

DMX data cable with bare tails.

# VersaCap LED Lighting System

## Installation Instructions For Single Universe System

**Installation of the System**

1. **Mount Track**

   A.  Mount the 48" track to the top of the small capping on the bowling lanes.

   B.  Start at the beginning of the lanes by the foul line and work your way towards the pins.

   C.  Center a piece of Starter Track at the beginning of the small capping with the opening for the power connector to the foul line.  Start at the beginning at the small cap not the bull-nose of the cap.

   D.  Use three .75" screws to attached the track to the capping.  Screw through the opening in the track so the screw head pulls through the first layer of the track and into the capping.   This will secure the track. Place screws at the beginning about an inch from the end, middle and at the end at about an inch from the end.  Be sure not to over tighten the screws.

   E.  Continue mounting the track the length of the capping and stop at the masking unit or scoring reflector. Generally, each lane takes about 15 pieces of track.  It may be necessary to cut the last piece of track to size.  We recommend installing the track up to the masking unit leg since the control wires will be attached to the masking unit leg and run up to the control equipment mounted on the curtain wall.

   F.  Move to the next lane.

2. **Install The LED Strip Power Cable**

   A.  The LED strip power cable is the white, seventy-five foot cable with this  connector on one end.

   B.  Starting with the connector in the opening of the Stater Track by the foul line, push the cable through the center of the track into the groove.

   C.  Continue feeding the cable through the track until you get to the end of the track by the masking unit.

3. **Install LED Lighting Strips**

   ***WARNING!  DO NOT step or walk on the LED light strips!!!***

   A.  Remove the light strings from the packing

   B.  Unroll the light string and stretch out the strip the length of the lane.  The end of the LED strip with the power connector starts at the foul line.  Be careful not to bend the LED strip.

   C.  Place the entire LED strip into the top pf the track.

   D.  Plug the LED strip and the power cable connectors together connector at the foul line.

   E.  Slide the power connection into the power connector of the power cable at opening of the starter track near the foul line.

   F.  Press the cable of the LED strip into the track.

   G.  Line up and center the LED strip in the track.  At the beginning of the LED strip, gently fold the LED strip over and hold it as flat and straight as possible and centered in the track.  At the beginning of the LED Strip, begin to remove the tape backing from the back of the LED strip and gently press the strip in to place.  The track and LED strip should look like this when finished.

**Installation of the System**

4. **Install LED Lighting Strips Continued.**
   D.    Continue with the LED strip the rest of the length of the strip.
   E.    At the masking unit leg; secure the LED light cables to the masking unit leg with tie wraps.
   F.    Be sure the cable is secure and away from the path of any bowling ball.

5. **Leader Control Cables**
   A.   The leader cable is used to extend the control and power from the converter to the light strip.
   B.   Connect the leader cable to the converter and secure the cable with tie wraps.
   C.   Continue running the leader cable to the converter.

6. **Install LED Strip Protective Covers**
   A. The protective covers are use to protect the LED lights from bowling balls.
   B. Start at the foul line end of the light strip.
   C. Carefully slide the cover over the strip and mounting track.  (It is also possible to snap the covers over the lighting strips and track.)
   D. Slide the cover down the track towards the masking unit and stop at the end of the track.
   E. Then continuing with installing additional covers.  It is possible to slide more than one cover down the lane at a time.  Stop adding covers when the light string and track are completely covered.  It may will be necessary to cut the last protective cover to size for each lane.
   F. If the light string and leader cables are not secured and covered by the protective cover at the masking unit; add track and covers cut to size to secure them.

7. **Install The Signal Converter**
   A. The signal converter provides the control signal and power to the LED strips.
   B. The signal converter has been pre-addressed, so do not change the setting.
   C. Mount the signal converter to the curtain wall next to the power supply on the pinsetter curtain wall with two screws.
   D. Connect the power cable from the LED strip to the signal converter.  This cable is green, red & white.
   E. Connector the signal cable from the LED strip to the output of the signal converter.

8. **Install The Power Supply**
   A. The power supply is used to provide power to the signal converter.
   B. Remove the power supply from the packaging.
   C. Install the provided IEC power tail in to the power supply.
   D. Mount the power supply next to the signal converter on the pinsetter side of the curtain wall with screws.
   E. Connect the power leads from the power supply to the signal converter.
   F. Be sure to secure and dress all cables on the back side of the curtain wall.  Failure to do so can result in cables damaged by moving parts.

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**10. Key Pad Lighting Controller**

    A. The light controller is generally installed at the customer service desk or at any location you desire. Once at the desired location remove the key pad lighting controller from its packaging.

    B. If the key pad is to wall mounted; install old work low voltage single gang wall box in to the wall and pull the lighting control cable through the wall box.

    C. Then connect the power supply to the key pad controller.

    D. Connect the lighting control cable from the first signal converter on the curtain wall to the key pad controller. See Figure 1 for connecting signal cables to the key pad.

    E. Then mount the key pad to the wall box.

    F. Plug the power supply into an electrical outlet.

    G. Connect the other end of the cable to the DMX input of the first signal converter. See Figure 2 for more information.

**11. Install the DMX Signal Cables Between The Signal Converters**

    A. After all signal converters are mounted to the curtain wall and the main control cable has been installed from the key pad to the first signal converter, install the DMX signal cables between the signal converters.

    B. Starting with the first signal converter with the key pad controller cable connect the DMX signal input. Install one DMX signal cable into the DMX signal output of the first signal converter. Then connect the other end of the cable to the next signal converter to the DMX signal input.

    C. Use wire ties to secure all of the DMX signal cables to the curtain wall.

    D. Continue connecting or "daisy chaining" all of the DMX signal cables to the signal converters. See Figure 2 for more information.

**WARNING!!!! Make sure all power and data cables are secure and away from any moving parts of the pinsetter and away from the path of the bowling balls before turning on the VersaCap lighting or the bowling equipment.**

**12. Test The Lighting System**

    A. After all of the components and cables have been installed and properly secured power on the VersaCap lighting system.

    B. Press one of the playbacks of the key pad and test the lighting system to be sure everything is working properly. See Figure 4 for a list of the light shows.

Press one of the playback buttons here.

## Installation Instructions For Single Universe System

C. Speed settings can be changed on the controller by pressing the speed plus or minus buttons.

D. We do not recommend using the intensity adjustments on the key pad. These have been set during the system programming.

## Key Pad Lighting Controller Show List

1. Slow color change
2. Medium color change
3. Fast color change
4. Rainbow slow
5. Rainbow medium
6. Random
7. Color bars
8. Red tones
9. Blue tones
10. Green tones

**Trouble Shooting The System**

If the system does not work correctly; trouble shoot the issue:

1. Make sure all of the connections are properly made.
2. Make sure all of the power supplies and key pad have electrical power.
3. All LED strips should perform the same patterns at the same time. If one or more strips are not working correctly;
   a) check the output wiring at the key pad. Make sure it is wire correctly.
   b) Then check the DMX data correction at the first signal converter.
   c) Then check the settings of the signal converters. These are also pre-programmed so we do not recommend changes unless the settings are not correct. Please see Figure 3 for more information.
4. If you need additional help please contact technical support & service at 800-555-5280.

**Figure 1**

LIGHTING CONTROLLER
MOUNT AT REMOTE LOCATION

— BLACK
— WHITE
— SHIELD
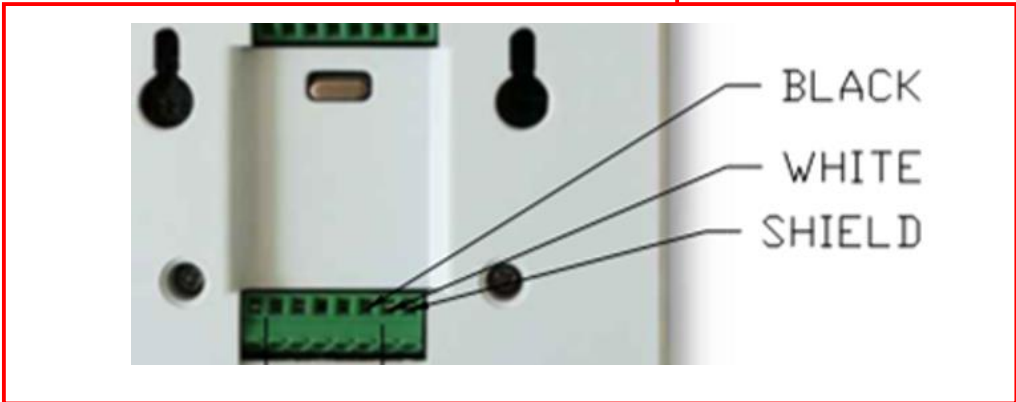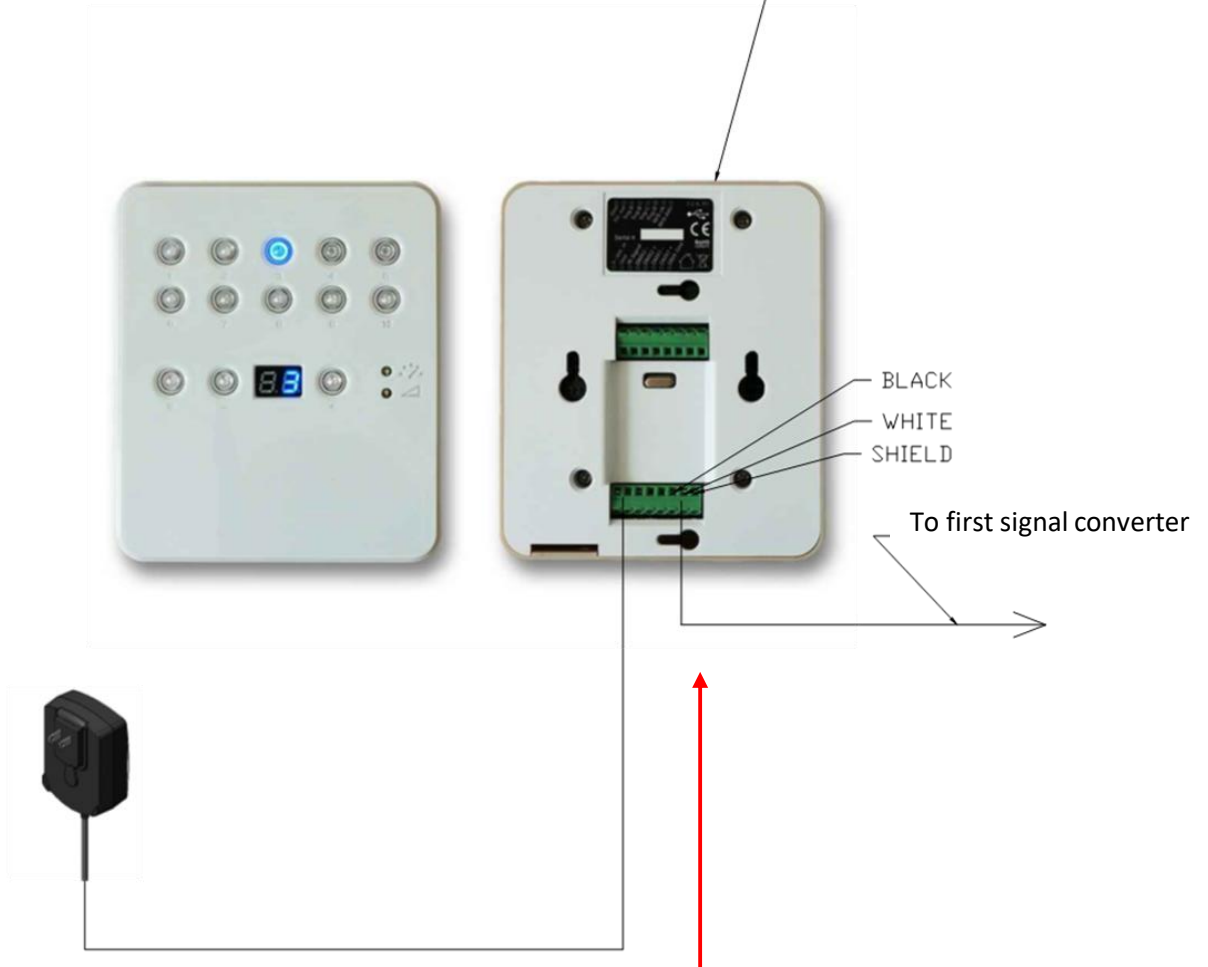
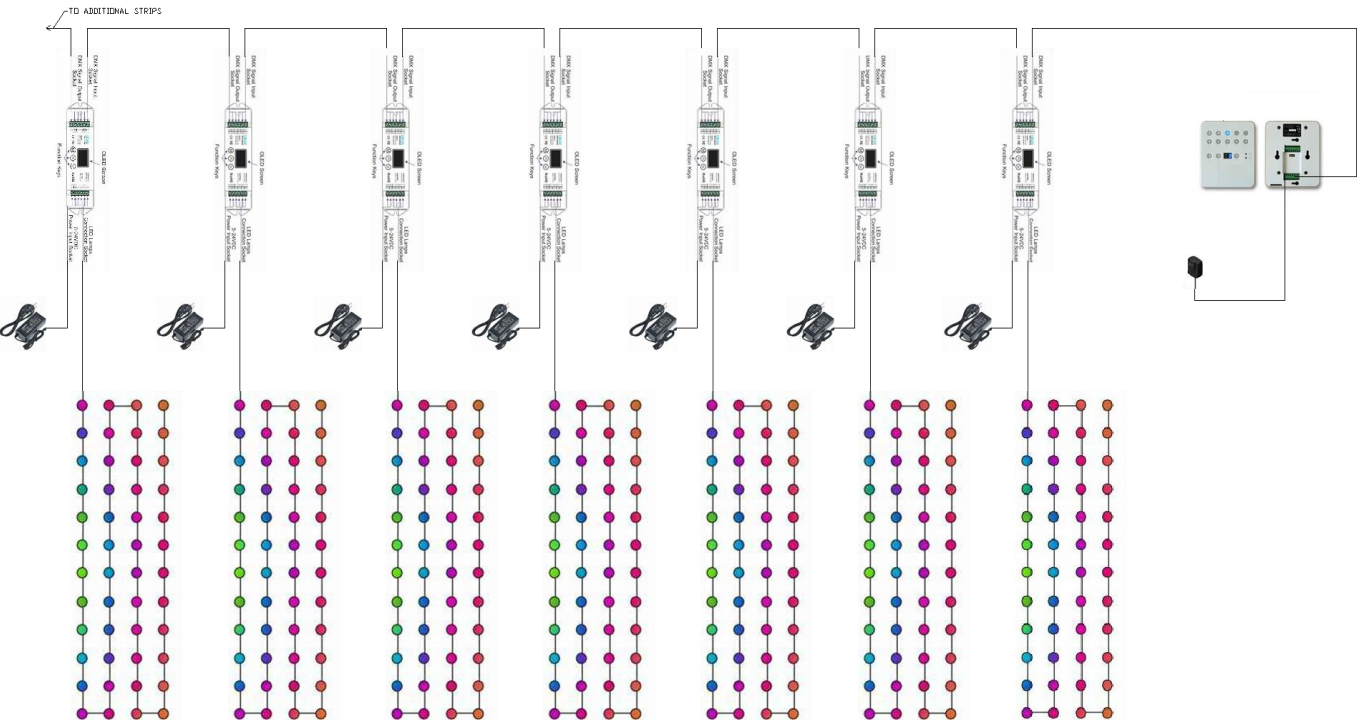To first signal converter

— BLACK
— WHITE
— SHIELD

## Installation Instructions For Single Universe System

**Figure 2**
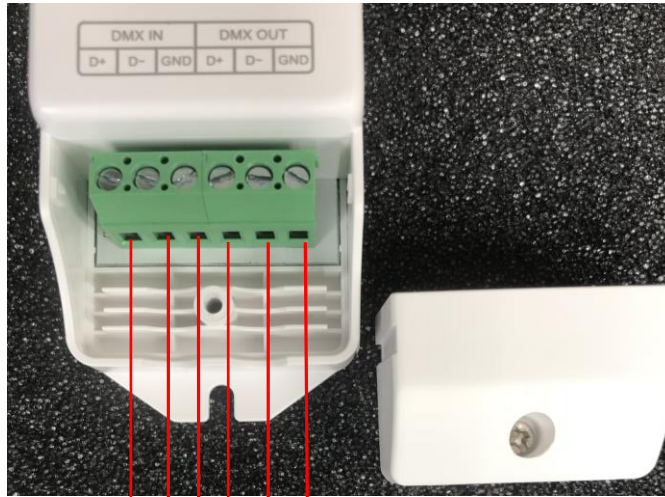


**DMX Connections To
The Signal Converter**

Shield

Black

White

Shield

Black

White

**Figure 3**

```
 ┌ THESE  SETTING  SHOULD  BE  SET  TO:
 │  DMX  ADDRESS:  1
 │  CHIP01:  2811W
 │  ORDER:  BGR
 │  PIXEL  MUL:  1
```

Short press Ⓜ to enter the DMX setting interface;
Long press Ⓜ to enter self-testing interface.

| DMX ADDRESS: 1 | ← DMX Address Setting (1-512) |
| CHIP01: D705 | ← Chip Type Choices |
| ORDER: RGB | ← RGB Sequence |
| Pixel Mul: 2 | ← Pixel Multiple Choices(1-32) |

**DMX Setting Interface**

Short press Ⓜ to switch entries; press ⋀ or ⋁ to adjust parameters.

| 01 RED JUMP | ← Mode (total 16) |
| SPEED: 8 | ← Speed (16 levels) |
| S-Press ↑/↓ :MODE | ← Short press ⋀/⋁ to switch mode. |
| L-Press ↑/↓ :SPEED | ← Long press ⋀/⋁ to adjust brightness. |
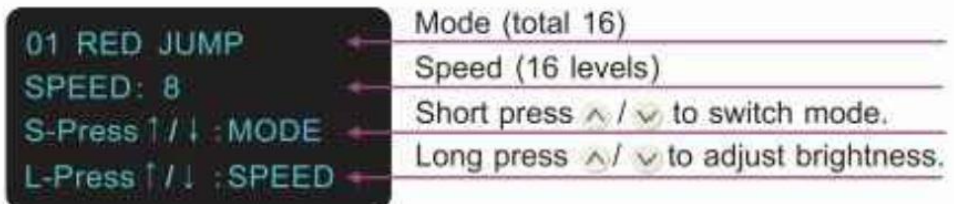
**Self-testing interface**

**Figure 4**

# Key Pad Lighting Controller Show List

1. Slow color change
2. Medium color change
3. Fast color change
4. Rainbow slow
5. Rainbow medium
6. Random
7. Color bars
8. Red tones
9. Blue tones
10. Green tones