BB-2135 Backboard
LED Light Strips

Display Manual
# Table of Contents

Section 1: Introduction ................................................................................................................................. 1  
  1.1 Specifications Label ................................................................................................................................. 1  
  1.2 Resources .............................................................................................................................................. 1  
  1.3 Daktronics Nomenclature ......................................................................................................................... 2  

Section 2: Backboard Lighting Kit ................................................................................................................... 3  
  2.1 Mechanical Installation ............................................................................................................................. 3  
  2.2 Electrical Installation ............................................................................................................................... 3  
    Visual Horn Indicator Light Strip Kit (High School Only) ............................................................................. 3  

Section 3: Maintenance & Troubleshooting .................................................................................................... 5  
  3.1 Troubleshooting Table ............................................................................................................................. 5  
  3.2 Component Locations & Access ............................................................................................................. 5  
  3.3 LED Driver ............................................................................................................................................ 6  
    Replacing a Driver ................................................................................................................................. 6  
    Setting the Driver Address ............................................................................................................. 6  
  3.4 Schematics ............................................................................................................................................ 6  
  3.5 Replacement Parts ................................................................................................................................. 7  
  3.6 Routine/Preventative Maintenance ........................................................................................................ 7  

Section 4: Daktronics Exchange and Repair & Return Programs ................................................................. 9  
  4.1 Exchange Program ................................................................................................................................. 9  
    Before Contacting Daktronics ............................................................................................................. 9  
  4.2 Repair & Return Program ...................................................................................................................... 10  
    Shipping Address ................................................................................................................................. 10  
  4.3 Daktronics Warranty & Limitation of Liability ..................................................................................... 10  

Appendix A: Reference Drawings .................................................................................................................. 11  

Appendix B: Daktronics Warranty & Limitation of Liability .......................................................................... 13
Section 1: Introduction

This manual explains the installation and maintenance of Daktronics BB-2135 End-of-Period (EOP) backboard LED light strips. For additional information regarding the safety, installation, operation, or service of these displays, refer to the Daktronics Customer Service contact information in Section 4. This manual is not specific to a particular installation.

**IMPORTANT SAFEGUARDS**

- Read and understand all instructions before beginning the installation process.
- Disconnect display power when not in use or when servicing.
- Disconnect display power before servicing power supplies to avoid electrical shock. Power supplies run on high voltage and may cause physical injury if touched while powered.
- Do not modify the structure or attach any panels or coverings to the display without the express written consent of Daktronics.
- Do not disassemble control equipment or electronic controls of the display; failure to follow this safeguard will make the warranty null and void.
- Do not drop the control equipment or allow it to get wet.

1.1 Specifications Label

Power specifications as well as serial and model number information can be found on an ID label on the display, similar to the one shown in Figure 1.

![Figure 1: Specifications Label](image1)

Please have the assembly number, model number, and the date manufactured on hand when calling Daktronics customer service to ensure the request is serviced as quickly as possible. Knowing the facility name and/or job number will also be helpful.

1.2 Resources

Figure 2 illustrates a Daktronics drawing label. This manual refers to drawings by listing the last set of digits and the letter preceding them. In the example, the drawing would be referred to as Drawing D-1007804. All references to drawing numbers, appendices, figures, or other manuals are presented in bold typeface. Any drawings referenced in a particular section are listed at the beginning of it as shown below:

**Reference Drawing:**

System Riser Diagram ........................................................................................................... Drawing D-1007804

Daktronics identifies manuals by the DD or ED number located on the cover page. For example, this manual would be referred to as ED-14187.
Project-specific information takes precedence over any other general information found in this manual. Such information may include:

- **Schematic Drawings**: describe internal power and signal wiring as well as interconnections between display sections; may also include digit designations and driver addressing information
- **Shop Drawings**: describe mounting methods to structural elements, access method (front or rear), and power and signal entrance points
- **System Riser Diagrams**: describe power and signal connections between display components and the control location; may also include control room layout and schematic
- **Final Assembly Drawings**: describe internal display component locations and detailed product appearance with part numbers and quantities

Ensure all applicable material has been gathered before beginning the installation. Contact a Daktronics sales coordinator or project manager.

### 1.3 Daktronics Nomenclature

Most display components have a white label that lists the part number (Figure 3). Part numbers will also appear on certain drawings. If a component is not found in the Replacement Parts List in **Section 3.5**, use the label to order a replacement. **Section 4** describes the Daktronics Exchange Policy and the Repair & Return Program. Refer to these instructions if replacing or repairing any display component.

#### Main Component Labels

<table>
<thead>
<tr>
<th>Part Type</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual circuit board</td>
<td>0P-XXXX-XXXX</td>
</tr>
<tr>
<td>Assembly; a collection of circuit boards</td>
<td>0A-XXXX-XXXX</td>
</tr>
<tr>
<td>Wire or cable</td>
<td>W-XXXX</td>
</tr>
<tr>
<td>Fuse</td>
<td>F-XXXX</td>
</tr>
<tr>
<td>Transformer</td>
<td>T-XXXX</td>
</tr>
<tr>
<td>Metal part</td>
<td>0M-XXXXXXX</td>
</tr>
<tr>
<td>Fabricated metal assembly</td>
<td>0S-XXXXXXX</td>
</tr>
<tr>
<td>Specially ordered part</td>
<td>PR-XXXXX-X</td>
</tr>
</tbody>
</table>

#### Accessory Labels

<table>
<thead>
<tr>
<th>Component</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Termination block for power or signal cable</td>
<td>TBXX</td>
</tr>
<tr>
<td>Grounding point</td>
<td>EXX</td>
</tr>
<tr>
<td>Power or signal jack</td>
<td>JXX</td>
</tr>
<tr>
<td>Power or signal plug for the opposite jack</td>
<td>PXX</td>
</tr>
</tbody>
</table>

**Figure 3: Part Label**
Section 2: Backboard Lighting Kit

2.1 Mechanical Installation

Reference Drawings:
- Mechanical/Electrical Specs- Light Strip Controller .................................................... Drawing A-176435
- Mechanical Spec, NCAA Backboard LED Lighting ....................................................... Drawing A-191155
- NCAA Backboard Lighting Assy, Gared ........................................................................ Drawing A-191926
- NCAA 42” Backboard Lighting Assy, Universal .............................................................. Drawing A-273159
- NCAA 48” Backboard Lighting Assy, Universal .............................................................. Drawing A-273513
- Adjustable Light Strip Assy-U ..................... Drawing A-276046
- Adjustable Light Strip Assembly – Gared ...................................................................... Drawing A-1071193

Drawing A-191155 in Appendix A provides a general overview of what the final product will look like attached to a backboard. Daktronics provides several LED lighting kits based on the size and manufacturer of the backboard. Refer to the appropriate drawing for installation instructions of a particular backboard.

Note: The universal mounting kit also features an adjustable mounting option. Refer to Drawing A-276046 for more information.

If an LED strip controller box is used to run the backboard light strips, attach mounting brackets to the controller and attach it to the backstop. Refer to Drawing A-176435 for mounting details.

2.2 Electrical Installation

Reference Drawings:
- Mechanical/Electrical Specs- Light Strip Controller .................................................... Drawing A-176435
- Electrical Install Details, LED Light Strips ..................................................................... Drawing B-191771
- Connection Details: LED Light Strip Controller .............................................................. Drawing B-191995
- Connection Detail, LED Light Strip Controller .............................................................. Drawing B-3285852

The LED backboard lighting typically receives power/signal from one of three places:

1. A shot clock equipped with an LED lighting XLR jack
2. An LED light strip controller box
3. A transparent shot clock controller box with an LED lighting XLR jack

Drawing B-191771 explains how to connect the light strips together. Use the 30' (9.1 m) jumper cable provided with the kit to connect the XLR plug protruding from the bottom of the LED light strip to one of the above sources. If the jumper cable is too long, cut it and reattach the XLR plug to the end per the instructions in "Detail B" on Drawing B-3285852.

Drawing B-191955 illustrates a typical setup using both controller and shot clocks for light strip power. The mating XLR jacks on the light strip controller are shown in the rear views on Drawing A-176435.
For shot clock XLR jack locations, refer to the specific component location drawings included in the shot clock’s manual.

Visual Horn Indicator Light Strip Kit (High School Only)

Reference Drawings:
- Riser Diagram: HS Light Strip Cntlr Installation ............................................................ Drawing B-304654

Daktronics offers a kit (part # 0A-1230-0188) that allows the light strips to run directly from the scoreboard. This is typically only for high school facilities where there are no shot clocks and the light strips only need to function as a visual horn indicator (VHI). Refer to Drawing B-304654 in Appendix A for installation instructions.

Note: The light strips will only activate when the scoreboard horn sounds. To change when the light strips activate, a separate control box or shot clock is required.
Section 3: Maintenance & Troubleshooting

Disconnect power before doing any repair or maintenance work on the display. Permit only qualified service personnel to access internal display electronics. Disconnect power when not using the display.

3.1 Troubleshooting Table

The table below lists potential problems with the lighting systems and indicates possible causes and corrective actions. This list does not include every symptom that may be encountered, but it does present several of the most common situations that may occur.

If a problem occurs that is not listed or that cannot be resolved using the solutions in the following table, contact Daktronics using the information provided in Section 4.

For additional troubleshooting of a shot clock, scoreboard controller, or other system component, refer to the product manuals located online at www.daktronics.com/manuals.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution/Items to Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display doesn’t light at all.</td>
<td>• Check all cable connections:</td>
</tr>
<tr>
<td></td>
<td>• Power to the light strip controller (or shot clock/scoreboard)</td>
</tr>
<tr>
<td></td>
<td>• Signal to the light strip controller (or shot clock/scoreboard) from the control console</td>
</tr>
<tr>
<td></td>
<td>• Signal from the light strip controller (or shot clock/scoreboard) to the light strip itself</td>
</tr>
<tr>
<td></td>
<td>• When using an All Sport 5000 or 5500 series controller, ensure there is an address plug on the light strip control driver (refer to Section 3.3).</td>
</tr>
<tr>
<td></td>
<td>Note: Setups using an All Sport 4000 or ProSport 6000 controller do not require this address plug.</td>
</tr>
<tr>
<td></td>
<td>• Replace controller driver (refer to Section 3.3).</td>
</tr>
<tr>
<td>Light strip comes on at wrong time.</td>
<td>• Make sure gray wire from J6 is connected to appropriate position on terminal block inside controller. Refer to Drawing A-176435 in Appendix A.</td>
</tr>
<tr>
<td>Individual LED, or section of LEDs, is not working.</td>
<td>• Swap section of light strip with one known to work correctly to verify it is defective.</td>
</tr>
<tr>
<td></td>
<td>• Replace defective portion of light strip.</td>
</tr>
</tbody>
</table>

3.2 Component Locations & Access

LED end-of-period lighting system components should be located at each backboard. Light strips are mounted directly to each backboard with #10 hardware and mounting brackets. The individual parts of the light strips are directly accessible.

The light strip controller will typically be located on the backboard back stop but may be mounted elsewhere. Power and signal connections are external, and if necessary, internal components can be accessed by removing the device’s cover.
3.3 LED Driver

Reference Drawings:
- 4 Column LED Driver II Specifications .......................................................... Drawing A-123783
- Mechanical/Electrical Specs- Light Strip Controller ........................................ Drawing A-176435

Daktronics LED light strip controllers use 4-column LED drivers to perform the task of switching LEDs on and off. Refer to Drawing A-123783 in Appendix A for detailed driver pin out/switch specifications.

Replacing a Driver

1. Open the LED light strip controller enclosure by removing the two screws on the bottom and lifting off the top. Refer to Drawing A-176435.

2. Disconnect all connectors from the driver by squeezing together the locking tabs and pulling the connectors free. It may be helpful to label the cables to know which cable goes to which connector when reattaching the driver.

3. Remove the four #6 screws securing the driver to the inside of the controller enclosure.

4. Carefully lift the driver from the controller enclosure and place it on a clean, flat surface.

5. Position a new driver inside the controller enclosure and tighten the screws.

6. Reconnect all power/signal connectors. The connectors are keyed and will attach in one way only. Do not force the connections.

7. Ensure the new driver is set to the correct address. This will be the same address of the old driver being replaced. Refer to Setting the Driver Address.

8. Close and secure the controller enclosure, then power up and test the light strips to see if changing the driver has resolved the problem.

Setting the Driver Address

Since the same LED drivers can be used for many display models, each driver must be set to receive the correct signal input, or address, for the model in which they are used. This address is set with jumper wires in a 12-pin plug which mates with jack J19 on the driver (Figure 4).

It may be possible to reuse the same address plug from the driver that was replaced. If not, use an Address 1 plug (part # 0A-1150-0122) for All Sport 5000 controlled light strips. For All Sport 5500 controlled light strips (ColorSmart scoreboards), use a fully-loaded address plug (part # 0A-1150-0064) set to Address 2, meaning all wires except red should be cut.

3.4 Schematics

Reference Drawings:
- Schem: LED Light Strip Controller ......................................................................... Drawing A-176075
- Schem: MCAST LED Light Strip Controller ............................................................... Drawing A-314188

For advanced troubleshooting and repair, it may be necessary to consult a schematic drawing. Drawing A-176075 and Drawing A-314188 in Appendix A represent the schematic diagrams for the LED light strip controller. The schematic includes power and signal inputs and all internal wiring for the lighting system.
3.5 Replacement Parts

Refer to the following table for standard and optional replacement parts.

<table>
<thead>
<tr>
<th>Part Description</th>
<th>Daktronics Part #</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-pin address plug (use for MCAST/ColorSmart)</td>
<td>0A-1150-0064</td>
</tr>
<tr>
<td>Address 1 plug</td>
<td>0A-1150-0122</td>
</tr>
<tr>
<td>Cable; 3-pin XLR male to female, 30'</td>
<td>0A-1230-0090</td>
</tr>
<tr>
<td>Cable; 3-pin XLR male to female, 100'</td>
<td>0A-1230-0113</td>
</tr>
<tr>
<td>Cable; 3-pin XLR male to female, 6'</td>
<td>0A-1230-0148</td>
</tr>
<tr>
<td>Cable; 3-pin XLR male to female, 50'</td>
<td>0A-1230-0168</td>
</tr>
<tr>
<td>18&quot; Light Strip (bottom)</td>
<td>0A-1237-0626</td>
</tr>
<tr>
<td>29&quot; Light Strip (side)</td>
<td>0A-1237-0627</td>
</tr>
<tr>
<td>62&quot; Light Strip (top)</td>
<td>0A-1237-0628</td>
</tr>
<tr>
<td>35&quot; Light Strip (side)</td>
<td>0A-1237-0862</td>
</tr>
<tr>
<td>LED driver, 4-column</td>
<td>0P-1150-0130</td>
</tr>
<tr>
<td>LED driver, 4-column (MCAST/ColorSmart)</td>
<td>0P-1388-0101</td>
</tr>
<tr>
<td>Transformer, 120P/16S, 6.3 A</td>
<td>T-1066</td>
</tr>
</tbody>
</table>

3.6 Routine/Preventative Maintenance

Perform an annual visual inspection of each display and check the following:

- Check and tighten fasteners or replace them as required.
- Check the electrical components for proper connection and any signs of corrosion.
Section 4: Daktronics Exchange and Repair & Return Programs

4.1 Exchange Program

The Daktronics Exchange Program is a service for quickly replacing key components in need of repair. If a component fails, Daktronics sends a replacement part to the customer who, in turn, returns the failed component to Daktronics. This decreases equipment downtime. Customers who follow the program guidelines explained below will receive this service.

Before Contacting Daktronics

Identify these important numbers:

Display Assembly Number: ______________________________________________________________________

Display Model Number: _________________________________________________________________________

Job/Contract Number: __________________________________________________________________________

Date Manufactured/Installed: _____________________________________________________________________

Daktronics Customer ID Number: _________________________________________________________________

To participate in the Exchange Program, follow these steps:


<table>
<thead>
<tr>
<th>Market Description</th>
<th>Customer Service Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools (including community/junior colleges), religious organizations, municipal clubs, and community centers</td>
<td>877-605-1115</td>
</tr>
<tr>
<td>Universities and professional sporting events, live events for auditoriums, and arenas</td>
<td>866-343-6018</td>
</tr>
</tbody>
</table>

2. When the new exchange part is received, mail the old part to Daktronics.

   If the replacement part fixes the problem, send in the problem part which is being replaced.
   
   a. Package the old part in the same shipping materials in which the replacement part arrived.
   
   b. Fill out and attach the enclosed UPS shipping document.
   
   c. Ship the part to Daktronics.

3. The defective or unused parts must be returned to Daktronics within 5 weeks of initial order shipment.

   If any part is not returned within five (5) weeks, a non-refundable invoice will be presented to the customer for the costs of replenishing the exchange parts inventory with a new part.

   Daktronics reserves the right to refuse parts that have been damaged due to acts of nature or causes other than normal wear and tear.
4.2 Repair & Return Program

For items not subject to exchange, Daktronics offers a Repair & Return Program. To send a part for repair, follow these steps:

1. **Call or fax Daktronics Customer Service.**
   
   Refer to the appropriate market phone number in the chart on the previous page.
   
   Fax: 605-697-4444

2. **Receive a case number before shipping.**
   
   This expedites repair of the part.

3. **Package and pad the item carefully to prevent damage during shipment.**
   
   Electronic components, such as printed circuit boards, should be placed in an antistatic bag before boxing. Daktronics does not recommend using packing peanuts when shipping.

4. **Enclose:**
   - name
   - address
   - phone number
   - the case number
   - a clear description of symptoms

**Shipping Address**

Daktronics Customer Service
[Case #]
201 Daktronics Drive, Dock E
Brookings, SD 57006

4.3 Daktronics Warranty & Limitation of Liability

The Daktronics Warranty & Limitation of Liability is located in Appendix B. The Warranty is independent of Extended Service agreements and is the authority in matters of service, repair, and display operation.
Refer to Section 1.2 for information regarding how to read the drawing number. These drawings are listed in alphanumeric order. Any contract-specific drawings take precedence over these general drawings.

<table>
<thead>
<tr>
<th>Drawing Title</th>
<th>Drawing Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Column LED Driver II; Specifications</td>
<td>A-123783</td>
</tr>
<tr>
<td>Schematic; LED Light Strip Controller</td>
<td>A-176075</td>
</tr>
<tr>
<td>Mechanical/Electrical Specs, Light Strip Controller</td>
<td>A-176435</td>
</tr>
<tr>
<td>Mechanical Spec, NCAA Backboard LED Lighting</td>
<td>A-191155</td>
</tr>
<tr>
<td>Electrical Install Details, LED Light Strips</td>
<td>B-191771</td>
</tr>
<tr>
<td>NCAA Backboard Lighting Assy, Gared</td>
<td>A-191926</td>
</tr>
<tr>
<td>Connection Details: LED Light Strip Controller</td>
<td>B-191995</td>
</tr>
<tr>
<td>NCAA 42&quot; Backboard Lighting Assy, Universal</td>
<td>A-273159</td>
</tr>
<tr>
<td>NCAA 48&quot; Backboard Lighting Assy, Universal</td>
<td>A-273513</td>
</tr>
<tr>
<td>Adjustable Light Strip Assy- Universal</td>
<td>A-276046</td>
</tr>
<tr>
<td>Riser Diagram: HS Light Strip Cntr Installation</td>
<td>B-304654</td>
</tr>
<tr>
<td>Schem: MCAST LED Light Strip Controller</td>
<td>A-314188</td>
</tr>
<tr>
<td>Adjustable Light Strip Assembly – Gared</td>
<td>A-1071193</td>
</tr>
<tr>
<td>Connection Detail, LED Light Strip Controller</td>
<td>B-3285852</td>
</tr>
</tbody>
</table>
J19 ADDRESS AND COLUMN SELECT JACK

<table>
<thead>
<tr>
<th>J17 MAIN</th>
<th>J19 ADDRESS</th>
<th>J6 RELAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIN FUNCTION</td>
<td>PIN FUNCTION</td>
<td>PIN FUNCTION</td>
</tr>
<tr>
<td>1</td>
<td>SIG-P</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>SIG-N</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GND-N</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>CLOUT-P</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>CLOUT-N</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>16VAC-N</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>GND-N</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>EARTH-N</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>16VAC-P</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>GND-N</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>SWIN-P</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>SWIN-N</td>
<td>12</td>
</tr>
</tbody>
</table>

NOTE
- WITH NO ADDRESS PINS SELECTED THE DRIVER WILL DEFAULT TO A/S 4000 PROTOCOL
- COLUMN SELECT PINS WORK FOR EITHER A/S 4000 OR A/S 5000 PROTOCOL
- DRIVER WILL DEFAULT TO COLUMNS 5–8
- GREEN LED INDICATES THE DRIVER HAS POWER
- RED LED WILL BE ON OR BLINKING WHEN THE DRIVER IS RECEIVING SIGNAL
- REDrive CIRCUIT IS PROCESSOR REFRESHED (REFER TO DWG A–128429 FOR FURTHER INFORMATION ON THE CURRENT LOOP REDrive CIRCUIT SPECIFICATIONS)

Also, COLUMN SELECT #1 MAKES THESE CHANGES:
INPUT DATA DIGIT 5, SEGMENT H IS SENT TO DIGIT OUTPUT NO. 1, SEGMENT H.
INPUT DATA DIGIT 9, SEGMENT H IS SENT TO DIGIT OUTPUT NO. 2, SEGMENT H.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJECT TITLE: 4 COLUMN LED DRIVER II; SPECIFICATIONS
DES. BY: EB DRAWN BY: E BRAVEK DATE: 08 NOV 99
REVISION: 03 APPR. BY: SCALE: NONE

1150–RO4A–123783
1. DEFAULT SETTING IS GAME CLOCK=0, TB-11 PIN3. TO ENABLE OTHER FUNCTIONS CHANGE CONNECTION OF GRAY WIRE AT TB-11.

2. DO NOT WORK ON ENERGIZED COMPONENTS.
29" LIGHT STRIP @2
SEE DETAIL 'A'

62" LIGHT STRIP @1

3'-6" [1067mm]

6'-0" [1829mm]

18" LIGHT STRIP @2

LIGHT STRIP MOUNTING BRACKET @2

FRONT VIEW

XLR PLUG - POWER TO COME FROM GAME SHOT CLOCK OR LIGHT STRIP CONTROLLER. USE 30' JUMPER CABLE TO CONNECT.

SECTION: A-A

ELECTRICAL SPECS FOR LED LIGHT STRIP
- PRIMARY VOLTAGE = 120VAC
- SECONDARY VOLTAGE = 16VDC
- POWER = 100W

LED LIGHT STRIP
BACKBOARD FRAME
BACKBOARD GLASS
MOUNTING ANGLE

DETAIL: A
NOTES:

THIS DRAWING IS FOR ELECTRICAL CONNECTIONS BETWEEN THE LIGHT STRIPS. THESE STEPS ARE DONE AFTER THE LIGHT STRIPS ARE MOUNTED TO THE BACKBOARD. FOR MOUNTING OF LIGHT STRIPS TO BACKBOARD REFER TO MECHANICAL DRAWING INCLUDED WITH MOUNTING HARDWARE.

INSTALLATION STEPS:

1. CONNECT THE PLUG AND JACK IN ALL FOUR CORNERS OF THE BACKBOARD. LED LIGHT STRIP PER DETAIL "A", USE CABLE TIES INCLUDED TO MOUNT WIRE AND SECURE WIRES. TIGHT CABLE TIES.

2. CONNECT THE XLR CABLE TO THE LIGHT STRIPS PER DETAIL "B". THE CABLE CAN BE CONNECTED TO EITHER END OF THE BOTTOM, INSIDE END OF THE LIGHT STRIPS. USE CABLE TIES INCLUDED TO SECURE STRIPS AS SHOWN.

3. CONNECT TO LIGHT STRIP CONTROLLER BOX OR SHOT CLOCK OR SHOT CLOCK. THE CABLE IS EQUIPPED WITH 3 PIN XLR USING XLR TO XLR CABLE.
INSTRUCTIONS:
1. REMOVE THE SECOND AND THIRD BOLTS FROM THE BOTTOM OF THE LEFT AND RIGHT VERTICAL CHANNELS. THESE ARE THE BOLTS THAT ATTACH THE CORNER BRACKETS TO THE FRAME.
2. LINE UP THE HOLES IN THE BOTTOM LIGHT STRIP BRACKET WITH THE HOLES IN THE FRAME AND INSERT THE BOLTS YOU JUST REMOVED.
3. SLIDE THE TWO VERTICAL LIGHT STRIPS INTO THE ENDS OF THE BOTTOM CHANNEL AND ATTACH THE CONNECTORS.
4. REMOVE THE SECOND AND THIRD BOLTS FROM THE TOP OF THE LEFT AND RIGHT VERTICAL CHANNELS.
5. SLIDE THE TWO VERTICAL LIGHT STRIPS INTO THE ENDS OF THE TOP CHANNEL AND ATTACH THE CONNECTORS.

REMOVE THESE 8 BOLTS AND MOUNT BRACKETS REUSING THOSE BOLTS

SEE DETAIL 'A'

SECTION: A–A
DIM A = THE INSIDE TO INSIDE DIMENSION OF THE BACKBOARD FRAMING.

- THIS DIMENSION MUST BE AT OR WITHIN 72.25" AND 64.625" FOR THE UNIVERSAL BRACKET TO BE USED.

INSTRUCTIONS:
1. ATTACH THE BOTTOM MOUNTING BRACKET TO THE SIDES WITH THE SELF-DRILLING SCREWS BY DAKTRONICS.
2. SLIDE THE TWO VERTICAL LIGHT STRIPS INTO THE ENDS OF THE BOTTOM CHANNEL AND ATTACH THE CONNECTORS.
3. SLIDE THE TWO VERTICAL LIGHT STRIPS INTO THE ENDS OF THE TOP CHANNEL AND ATTACH THE CONNECTORS.
4. ATTACH THE TOP MOUNTING BRACKET TO THE SIDES WITH THE SELF-DRILLING SCREWS BY DAKTRONICS.

DO NOT PINCH WIRES ON LIGHT STRIPS WHEN TIGHTENING SCREWS.

DETAIL: A  
SIZED UP x 3

BACKBOARD CORNER MOUNTING BRACKETS WILL VARY PER MANUFACTURER.
DIM A = THE INSIDE TO INSIDE DIMENSION OF THE BACKBOARD FRAMING.
- THIS DIMENSION MUST BE AT OR WITHIN 72.25" AND 64.625" FOR THE UNIVERSAL BRACKET TO BE USED.

INSTRUCTIONS:
1. ATTACH THE BOTTOM MOUNTING BRACKET TO THE SIDES WITH THE SELF-DRILLING SCREWS BY DAKTRONICS.
2. SLIDE THE TWO VERTICAL LIGHT STRIPS INTO THE ENDS OF THE BOTTOM CHANNEL AND ATTACH THE CONNECTORS.
3. SLIDE THE TWO VERTICAL LIGHT STRIPS INTO THE ENDS OF THE TOP CHANNEL AND ATTACH THE CONNECTORS.
4. ATTACH THE TOP MOUNTING BRACKET TO THE SIDES WITH THE SELF-DRILLING SCREWS BY DAKTRONICS.

DO NOT PINCH WIRES ON LIGHT STRIPS WHEN TIGHTENING SCREWS

DETAIL: A
( SCALED UP X3 )
INSTRUCTIONS:
1. ATTACH THE BOTTOM ADJUSTABLE MOUNTING BRACKETS TO THE SIDES OF THE BACKBOARD WITH THE SELF-DRILLING SCREWS SUPPLIED BY DAKTRONICS.
2. ATTACH THE BOTTOM MOUNTING BRACKET FOR UNIVERSAL LIGHT STRIPS TO THE ADJUSTABLE MOUNTING BRACKETS USING #10 SCREWS AND NUTS SUPPLIED BY DAKTRONICS.
3. SLIDE THE TWO VERTICAL LIGHT STRIPS INTO THE ENDS OF THE BOTTOM CHANNEL AND ATTACH THE CONNECTORS.
4. SLIDE THE TWO VERTICAL LIGHT STRIPS INTO THE ENDS OF THE TOP CHANNEL AND ATTACH THE CONNECTORS.
5. ATTACH THE TOP MOUNTING BRACKET FOR THE UNIVERSAL LIGHT STRIPS TO THE ADJUSTABLE MOUNTING BRACKETS USING #10 SCREWS AND NUTS SUPPLIED BY DAKTRONICS.
6. ATTACH THE TOP ADJUSTABLE MOUNTING BRACKETS TO THE SIDES OF THE BACKBOARD WITH THE SELF-DRILLING SCREWS SUPPLIED BY DAKTRONICS.
7. MAKE SURE LIGHT STRIP IS SLID TOWARDS GLASS AS FAR AS POSSIBLE.
**INSTALLATION DETAILS**

1. TURN OFF POWER TO SCOREBOARD(S)
2. RUN WIRE TO BOTH LIGHT STRIPS FROM SCORER(S)
3. MOUNT KIT IN SCOREBOARD WITH RIVETS, NEAR HORN LOCATION
4. CONNECT J50 AND F55 AT HORN LOCATION
5. ATTACH WIRE TO WHITE TERMINAL BLOCK ON KIT TRAY
   BLACK TO 7 (-), RED TO 1 (+)
6. DRILL OR KNOCKOUT 7/8" POWER OUT HOLE ON TOP OF SCORER
7. TERMINATE OTHER END OF W-1117 WIRES TO J-1125
   PIN 3: BLACK (+) RED TO 1 (+)
8. PLUG J-1125 INTO LIGHT STRIP CABLE AS NEEDED
9. TURN ON POWER TO SCORER AND TEST LIGHT STRIPS BY SOUNDING THE HORN. LIGHT
   STRIPS WILL ONLY ACTIVATE WHEN HORN SOUNDS.

---

**Parts**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>04-1230-0188</td>
<td>HS VHI LIGHTSTRIP SET</td>
</tr>
<tr>
<td>E0-1782-3</td>
<td>INSTALLATION GUIDE</td>
</tr>
</tbody>
</table>

---

**Installation Diagram**

- Diagram showing the wiring setup for the scoreboard.
- Instructions for installation and testing.

---

**Notes**

- Diagram includes wiring labels and connections.
- Instructions for proper installation and testing of the light strips.
HORN AND INDICATOR SEGMENTS

NOTE
DEFAULT SETTING IS GAME
CLOCK=0, TB-11 PIN3.
TO ENABLE OTHER FUNCTIONS
CHANGE CONNECTION OF
GRAY WIRE AT TB-11.
CARED LIGHT STRIPS ADJUSTABLE MOUNTING OPTION

NOTES:
- ONLY USE ADJUSTABLE MOUNTING BRACKETS IF IT IS NOT POSSIBLE TO MOUNT LIGHT STRIPS TIGHT TO THE BACK OF THE GLASS

FRONT VIEW

SEE DETAIL A
SECTION A-A

INSTRUCTIONS:
- CUT OFF EXCESS LENGTH OF LIGHT STRIP BRACKETS
- ATTACH ADJUSTABLE BRACKET TO TOP/BTM BACKBOARD FRAME WITH SELF DRILLING SCREWS PROVIDED BY DAKTRONICS
- ATTACH THE LIGHT STRIP BRACKET TO THE VERTICAL MOUNTING BRACKET WITH #10 SCREWS PROVIDED BY DAKTRONICS
- ATTACH THE VERTICAL MOUNTING BRACKET TO THE ADJUSTABLE MOUNTING BRACKET WITH #10 SCREWS PROVIDED BY DAKTRONICS
- SLIDE THE TWO VERTICAL LIGHT STRIPS INTO THE ENDS OF THE TOP AND BTM CHANNELS AND ATTACH THE CONNECTORS
- MAKE SURE THE LIGHT STRIPS ARE SLID TOWARD THE GLASS AS FAR AS POSSIBLE

DETAIL A
2X SCALE
This Warranty and Limitation of Liability (the “Warranty”) sets forth the warranty provided by Daktronics with respect to the Equipment. By accepting delivery of the Equipment, Purchaser and End User agree to be bound by and accept these terms and conditions. Unless otherwise defined herein, all terms within the Warranty shall have the same meaning and definition as provided elsewhere in the Agreement.

DAKTRONICS WILL ONLY BE OBLIGATED TO HONOR THE WARRANTY SET FORTH IN THESE TERMS AND CONDITIONS UPON RECEIPT OF FULL PAYMENT FOR THE EQUIPMENT.

1. **Warranty Coverage**

   A. Daktronics warrants to the original end user (the “End User”) that the Equipment will be free from Defects (as defined below) in materials and workmanship for a period of one (1) year (the “Warranty Period”). The Warranty Period shall commence on the earlier of: (i) four weeks from the date that the Equipment leaves Daktronics’ facility; or (ii) Substantial Completion as defined herein. The Warranty Period shall expire on the first anniversary of the commencement date.

   “Substantial Completion” means the operational availability of the Equipment to the End User in accordance with the Equipment’s specifications, without regard to punch-list items, or other non-substantial items which do not affect the operation of the Equipment.

   B. Daktronics’ obligation under this Warranty is limited to, at Daktronics’ option, replacing or repairing, any Equipment or part thereof that is found by Daktronics not to conform to the Equipment’s specifications. Unless otherwise directed by Daktronics, any defective part or component shall be returned to Daktronics for repair or replacement. This Warranty does not include on-site labor charges to remove or install these components. Daktronics may, at its option, provide on-site warranty service. Daktronics shall have a reasonable period of time to make such replacements or repairs and all labor associated therewith shall be performed during regular working hours. Regular working hours are Monday through Friday between 8:00 a.m. and 5:00 p.m. at the location where labor is performed, excluding any holidays observed by Daktronics.

   C. Daktronics shall pay ground transportation charges for the return of any defective component of the Equipment. All such items shall be shipped by End User DDP Daktronics designated facility. If returned Equipment is repaired or replaced under the terms of this Warranty, Daktronics will prepay ground transportation charges back to End User and shall ship such items DDP End User’s designated facility; otherwise, End User shall pay transportation charges to return the Equipment back to the End User and such Equipment shall be shipped Ex Works Daktronics designated facility. All returns must be pre-approved by Daktronics before shipment. Daktronics shall not be obligated to pay freight for any unapproved return. End User shall pay any upgraded or expedited transportation charges.

   D. Any replacement parts or Equipment will be new or serviceably used, comparable in function and performance to the original part or Equipment, and warranted for the remainder of the Warranty Period. Purchasing additional parts or Equipment from the Seller does not extend the Warranty Period.

   E. Defects shall be defined as follows. With regard to the Equipment (excepting LEDs), a “Defect” shall refer to a material variance from the design specifications that prohibit the Equipment from operating for its intended use. With respect to LEDs, “Defects” are defined as LED pixels that cease to emit light. Unless otherwise expressly provided, this Warranty does not impose any duty or liability upon Daktronics for partial LED pixel degradation. Notwithstanding the foregoing, in no event does this Warranty include LED pixel degradation caused by UV light. This Warranty does not provide for the replacement or installation of communication methods including but not limited to, wire, fiber optic cable, conduit, trenching, or for the purpose of overcoming local site interference radio equipment substitutions.

   EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS WARRANTY, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, DAKTRONICS DISCLAIMS ANY AND ALL OTHER PROMISES, REPRESENTATIONS AND WARRANTIES APPLICABLE TO THE EQUIPMENT AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ACCURACY OR QUALITY OF DATA. OTHER ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY DAKTRONICS, ITS AGENTS OR EMPLOYEES, SHALL NOT CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS LIMITED WARRANTY.

   THIS LIMITED WARRANTY IS NOT TRANSFERABLE.

2. **Exclusion from Warranty Coverage**

   This Warranty does not impose any duty or liability upon Daktronics for any:

   A. damage occurring at any time, during shipment of Equipment unless otherwise provided for in the Agreement. When returning Equipment to Daktronics for repair or replacement, End User assumes all risk of loss or damage, agrees to use any shipping containers that might be provided by Daktronics, and to ship the Equipment in the manner prescribed by Daktronics;

   B. damage caused by: (i) the improper handling, installation, adjustment, use, repair, or service of the Equipment, or (ii) any physical damage which includes, but is not limited to, missing, broken, or cracked components resulting from non-electrical causes; altered, scratched, or fractured electronic traces; missing or gauged solder pads; cuts or clipped wires; crushed, cracked, punctured, or bent circuit boards; or tampering with any electronic connections, provided that such damage is not caused by personnel of Daktronics or its authorized repair agents;

   C. damage caused by the failure to provide a continuously suitable environment, including, but not limited to: (i) neglect or misuse; (ii) improper power including, without limitation, a failure or sudden surge of electrical power; (iii) improper air conditioning, humidity control, or other environmental conditions outside of the Equipment’s technical specifications such as extreme temperatures, corrosives and metallic pollutants; or (iv) any other cause other than ordinary use;
D. damage caused by fire, flood, earthquake, water, wind, lightning or other natural disaster, strike, inability to obtain materials or utilities, war, terrorism, civil disturbance, or any other cause beyond Daktronics’ reasonable control;

E. failure to adjust, repair or replace any item of Equipment if it would be impractical for Daktronics personnel to do so because of connection of the Equipment by mechanical or electrical means to another device not supplied by Daktronics, or the existence of general environmental conditions at the site that pose a danger to Daktronics personnel;

F. statements made about the product by any salesperson, dealer, distributor or agent, unless such statements are in a written document signed by an officer of Daktronics. Such statements as are not included in a signed writing do not constitute warranties, shall not be relied upon by End User and are not part of the contract of sale;

G. damage arising from the use of Daktronics products in any application other than the commercial and industrial applications for which they are intended, unless, upon request, such use is specifically approved in writing by Daktronics;

H. replenishment of spare parts. In the event the Equipment was purchased with a spare parts package, the parties acknowledge and agree that the spare parts package is designed to exhaust over the life of the Equipment, and as such, the replenishment of the spare parts package is not included in the scope of this Warranty;

I. security or functionality of the End User’s network or systems, or anti-virus software updates;

J. performance of preventive maintenance;

K. third-party systems and other ancillary equipment, including without limitation front-end video control systems, audio systems, video processors and players, HVAC equipment, batteries and LCD screens;

L. incorporation of accessories, attachments, software or other devices not furnished by Daktronics; or

M. paint or refinishing the Equipment or furnishing material for this purpose.

3. Limitation of Liability

Daktronics shall be under no obligation to furnish continued service under this Warranty if alterations are made to the Equipment without the prior written approval of Daktronics.

It is specifically agreed that the price of the Equipment is based upon the following limitation of liability. In no event shall Daktronics (including its subsidiaries, affiliates, officers, directors, employees, or agents) be liable for any claims asserting or based on (a) loss of use of the facility or equipment; lost business, revenues, or profits; loss of goodwill; failure or increased cost of operations; loss, damage or corruption of data; loss resulting from system or service failure, malfunction, incompatibility, or breaches in system security; or (b) any special, consequential, incidental or exemplary damages arising out of or in any way connected with the Equipment or otherwise, including but not limited to damages for lost profits, cost of substitute or replacement equipment, down time, injury to property or any damages or sums paid to third parties, even if Daktronics has been advised of the possibility of such damages. The foregoing limitation of liability shall apply whether any claim is based upon principles of contract, tort or statutory duty, principles of indemnity or contribution, or otherwise.

In no event shall Daktronics be liable for loss, damage, or injury of any kind or nature arising out of or in connection with this Warranty in excess of the Purchase Price of the Equipment. The End User’s remedy in any dispute under this Warranty shall be ultimately limited to the Purchase Price of the Equipment to the extent the Purchase Price has been paid.

4. Assignment of Rights

The Warranty contained herein extends only to the End User (which may be the Purchaser) of the Equipment and no attempt to extend the Warranty to any subsequent user-transferee of the Equipment shall be valid or enforceable without the express written consent of Daktronics.

5. Governing Law

The rights and obligations of the parties under this Warranty shall not be governed by the provisions of the United Nations Convention on Contracts for the International Sales of Goods of 1980. The parties consent to the application of the laws of the State of South Dakota to govern, interpret, and enforce each of the parties’ rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Warranty, without regard to conflict of law principles.

6. Availability of Extended Service Agreement

For End User’s protection, in addition to that afforded by the warranties set forth herein, End User may purchase extended warranty services to cover the Equipment. The Extended Service Agreement, available from Daktronics, provides for electronic parts repair and/or on-site labor for an extended period from the date of expiration of this Warranty. Alternatively, an Extended Service Agreement may be purchased in conjunction with this Warranty for extended additional services. For further information, contact Daktronics Customer Service at 1-800-DAKTRONics (1-800-325-8766).