OUTDOOR LED SCOREBOARDS

INSTALLATION MANUAL

P1647/1753

DD2956757
Rev 09
03 August 2021

Single-Section Models		
ADPC-2023	BA-2518	MS-2032
ADPC-2031	BA-2618	MS-2126
ADPC-2033	BA-2715	MS-3918
ADPC-2034	BA-2718	RO-2010
ADTI-2003	CR-2002	RO-2011
ADTI-2019	CR-2003	RO-2019
ADTI-2032	FB-824	SO-918
BA-618	FB-4005	SO-2008
BA-624	FB-2030	SO-2013
BA-2005	FB-2036	SO-2918
BA-2010	FB-2037	TI-218
BA-2014	FB-2038	TI-2003
BA-2017	MS-915	TI-2010
BA-2019	MS-918	TI-2012
BA-2022	MS-2002	TI-2015
BA-2023	MS-2004	TI-2019
BA-2030	MS-2006	TI-2024
BA-2031	MS-2012	TI-2032
BA-2032	MS-2024	TI-2033
BA-2033	MS-2025	TI-2034
BA-2034	MS-2028	TI-2035
BA-2035	MS-2029	
BA-2515	MS-2030	

Multi-Section Models		
BA-1518	FB-2020	MS-2009
BA-2025	FB-2021	MS-2027
BA-2026	FB-2022	MS-2031
BA-2027	FB-2023	MS-2918
BA-2028	FB-2024	SO-2011
BA-2029	FB-2025	SO-2019
BA-2125	FB-2026	SO-2021
BA-2127	FB-2027	SO-2023
FB-2018	FB-2028	SO-2043
FB-2019	FB-3010	

Modular Football Models	
FB-2500 Series	FB-2600 Series

Hybrid Football Models
FB-2700 Series

Tennis Models	
TN-2603	TN-2651
TN-2604	TN-2652
TN-2605	TN-2653
TN-2606	TN-2654
TN-2607	TN-2655
TN-2609	TN-2656
TN-2650	TN-2657

Pari-Mutuel Models	
PM-2100	PM-2108
PM-2101	PM-2109
PM-2102	PM-2110
PM-2103	PM-2111
PM-2104	PM-2112
PM-2105	PM-2113
PM-2106	PM-2114
PM-2107	

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FCC Statement

Supplier Declaration of Conformity (SDoC)

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

Warning: The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

Industry Canada Regulatory Information

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Inquiries

Contact Daktronics with any questions regarding our product compliance.

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1 Introduction

This manual explains the installation of Daktronics Outdoor LED Scoreboards. For additional information regarding the safety, installation, operation, or service of these displays, refer to the telephone numbers listed in **Section 5: Daktronics Exchange and Repair & Return Programs (p.32)**. This manual is not specific to a particular installation.

Important Safeguards

- **Read and understand all instructions before beginning the installation process.**
- **Properly ground the cabinet with a grounding electrode at the display location.**
- **Disconnect the display power when not in use or when servicing.**
- **Disconnect the 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.**

Specifications Label

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

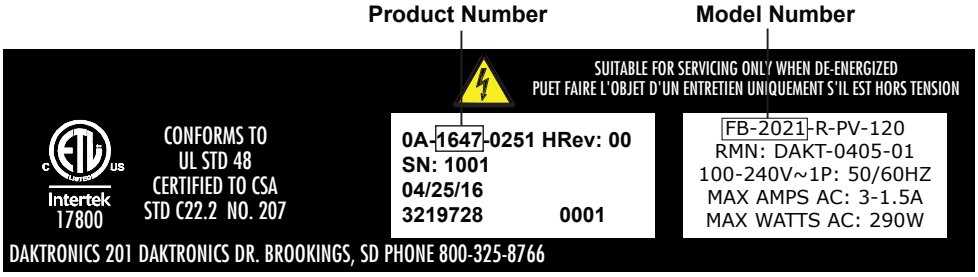


Figure 1: *Specifications Label*

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. Note that the Product Number(s) are sometimes used to distinguish different generations of displays that have the same model number.

Resources

Figure 2 illustrates a Daktronics drawing label. This manual refers to drawings by listing the last set of digits. In the example, the drawing would be referred to as **DWG-1007804**. All references to drawing numbers, appendices, figures, or other manuals are presented in bold typeface.

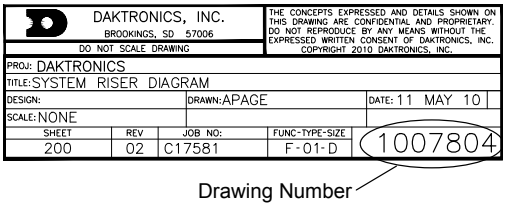


Figure 2: *Drawing Label*

Any drawings referenced in a section are listed at the beginning of it as shown below:

Reference Drawings:
System Riser Diagram **DWG-1007804**

Daktronics identifies manuals by the DD or ED number located on the cover page.

Listed below are drawing types commonly used by Daktronics, along with the information typically provided. All drawings referenced in this manual are found in the appendices.

- **Schematic Drawings:** describe internal power and signal wiring as well as interconnections between display sections; they 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/signal connections between components and the control location; they may also include control room layout and schematic
- **Final Assembly Drawings:** describe internal component locations and detailed product appearance with part numbers and quantities

Project-specific information takes precedence over any other general information found in this manual. Ensure all applicable material has been gathered before beginning the installation. Contact a Daktronics sales coordinator or project manager.

Troubleshooting

For an extensive troubleshooting guide, instructions on how to replace display components, and detailed schematic drawings, refer to the following manual, available online at www.daktronics.com/manuals:

- **Outdoor LED Scoreboards with Gyrus Driver Service Manual (DD3000541)**

Display Controllers

The All Sport® 5000, All Sport® 1600, and RC-200 hand-held wireless controller use keyboard overlays (sport inserts) to control numerous sports and display models. Refer to the manuals below for operating instructions. They are provided on a CD with the control consoles, and they are also available online at www.daktronics.com/manuals.

- **All Sport 1600 Series Control Console Operation Manual (ED-12462)**
- **All Sport 5000 Series Control Console Operation Manual (ED-11976)**
- **Remote Control System RC-200 All Sport Operation Manual (DD3572889)**

> **Note:** DakTennis software is required for multi-court tennis scoreboards with optional TNMCs. See **DakTennis Version 3 Installation & Operation Manual (DD1965926)**.

Daktronics pari-mutuel displays are designed to be controlled by third-party tote software. Software providers must have permission to output data in a specific format for Daktronics displays. Contact Daktronics for approved providers. Refer to the documentation from the particular software provider for operating instructions.

The DAK Score app and All Sport MX-1 interface box provide a way to control Daktronics scoreboards using a compatible tablet or mobile device. Visit www.daktronics.com/allsportMXsupport to download the app, view the quick guide below, and access other setup, operation, and troubleshooting information.

- **All Sport MX-1 Quick Guide (DD3667023)**

Sport Codes

The following table lists common All Sport and RC-200 sport codes. Note that many scoreboards are capable of scoring multiple sports. Refer to the appropriate controller operation manual for a complete listing of sport codes.

Sport	All Sport 5000 Codes	All Sport 1600 Codes	RC-200 Codes
Baseball	5501	03 (23 = clock)	03 (23 = clock)
Pitch & Speed	5500	N/A	N/A
Football	6601	01	61
Lacrosse / Field Hockey	4601	01	01
Soccer	7701	01	01
Tennis	220	08	08
Track	8601 (manual)	N/A	N/A

Product Safety Approval

Daktronics outdoor displays are ETL-listed, tested to CSA standards, and CE-labeled for outdoor use. Contact Daktronics with any questions regarding testing procedures.

2 Mechanical Installation

Mechanical installation consists of installing concrete footing and steel beams and mounting the display and accompanying ad panels to the beams. The product specification sheets listed in **Appendix A** include installation specification drawings that show the recommended number of beams and spacing between them. The drawings also indicate the size of beams required to support the display at different heights and at various wind speeds. **For Modular Football scoreboards and Pari-Mutuel displays, refer to site-specific diagrams for proper placement and mounting method.**

Any column and footing size dimensions are to assist with estimating installation costs; they are estimates only and are not intended for actual construction purposes. Be sure that the installation complies with local building codes and is suitable for the particular soil and wind conditions. The columns, footings, and all connection details must be designed and certified by a professional engineer licensed to practice in the state of the display installation.

> **Note:** Daktronics assumes no liability for any installation derived from the information provided in this manual or installations designed and installed by others.

Lifting

Displays and display sections ship equipped with 1/2" shoulder-type eyebolts located along the top of the cabinet for the purpose of lifting.

Whenever possible, use a spreader bar, or lifting bar, to lift the display. Spreader bars ensure force on the eyebolts remains straight up, minimizing lifting stress.

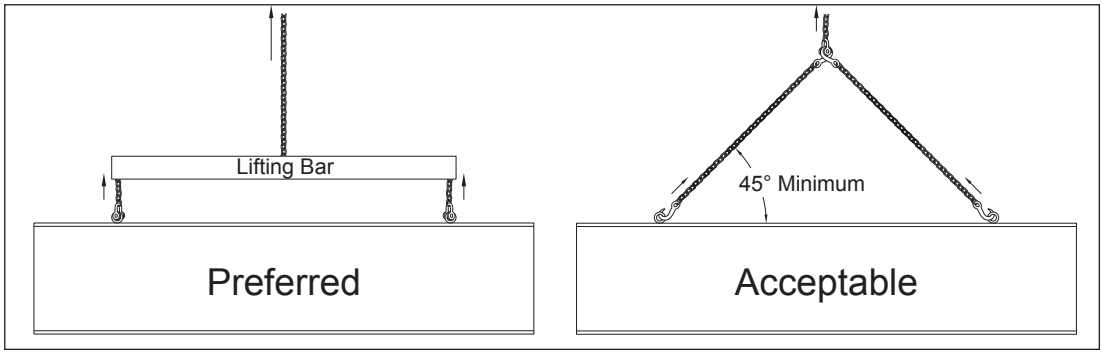


Figure 3: *Lifting Methods*

Figure 3 illustrates the preferred lifting method on the left and an acceptable alternative lifting method on the right. When lifting the cabinet:

- Use a spreader bar if possible.
- Use every lifting point provided.

Avoid using other lifting methods. Cables and chains attached to the eyebolts and directly to a center lifting point, as shown in the "Acceptable" example in **Figure 3**, can create a dangerous lateral force on the eyebolts and may cause them to fail. The smaller the angle between the cable and the top of the cabinet, the lighter the cabinet must be to safely lift it. If this method must be used, ensure a minimum angle between the chain and cabinet of at least 45°.

Do NOT attempt to lift the cabinet if the angle is less than 45°. Exceeding load angles or weight limits could cause the bolts in the cabinet to buckle, resulting in serious damage to the equipment or injury to personnel. Also, loads should be applied directly in the plane of the eyebolt as shown in **Figure 4**.

Note: Daktronics assumes no liability for damages resulting from incorrect setup or lifting methods. Eyebolts are intended for lifting only. Do not attempt to permanently support the cabinet by the eyebolts or eyebolt holes.

In typical multi-section installations, the lowest display section is installed first and secured to the support beams. The upper sections are then placed atop or above the lower sections and attached to the beams.

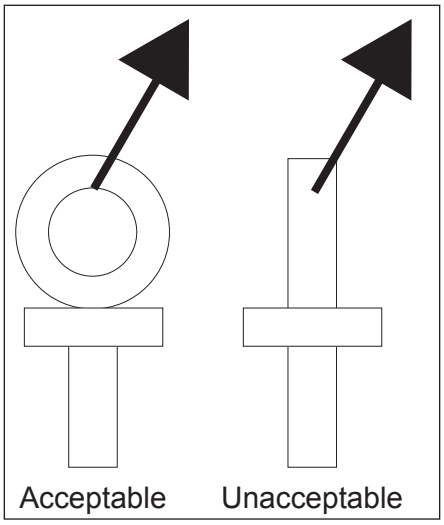


Figure 4: *Eyebolt Plane Load*

If installers remove the eyebolts, plug the holes with bolts and the rubber washers that are used with the eyebolts. Apply silicone or another waterproof sealant to the eyebolt openings. Also inspect the top and sides of the display for any other holes that may allow moisture to enter the display, then plug and seal those openings.

Extruded Cabinet Mounting

Four standard mounting methods are available for displays with extruded cabinets. Each method requires spring nuts to be inserted into the rear channels of the cabinet.

Note: Do not use lubrication on any mounting hardware or the warranty will be void!

1. Insert spring nuts into the top and bottom cabinet channels. Twist the spring nuts until they are perpendicular to the channel (**Figure 5**).
2. Measure the beam spacing and position a spring nut on either side of the beams. Each display section requires four spring nuts per beam (two at the top and two at the bottom).

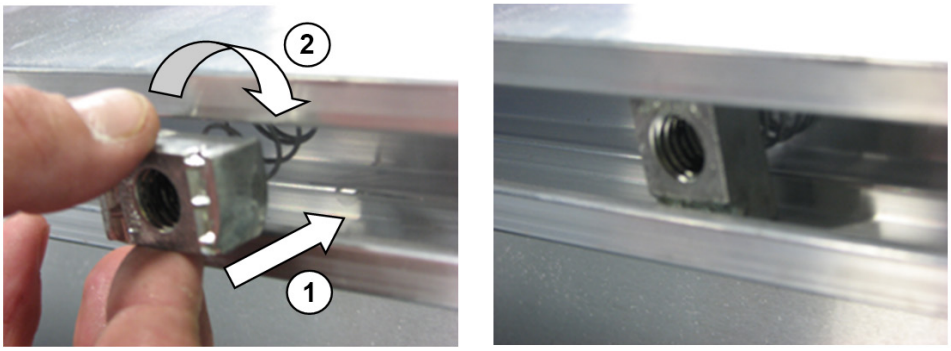


Figure 5: *Spring Nut Insertion*

Once the spring nuts are in place, refer to the appropriate section that follows for the type of mounting hardware provided with the display.

I-Beam Clamps

Reference Drawings:

P1647; I-Beam Clamp Mounting **DWG-1052565**
P1647; DSA I-Beam Clamp Mounting **DWG-1064893**
Mtg Straps, 4 Sec SCBD on 3 Poles **DWG-1115341**

Use this mounting method to mount a display to I-beams with a flange thickness of 1/4" – 3/4". If the flange is thicker than 3/4", longer bolts will be required at added expense.

Mounting hardware includes spring nuts, I-beam clamps, 1/2-13 x 3" bolts, 1/2" flat washers, and 1/2" lock washers. Refer to **Figure 6** and **DWG-1052565** in **Appendix B**.

1. Position a display section at the front of the beams, and lift it to the desired height.
2. Slide a lock washer, flat washer, and I-beam clamp onto each bolt, and loosely screw the bolts into each spring nut. Position each of these I-beam clamp assemblies as close to the I-beam flanges as possible.
3. Make final adjustments to the display section position to ensure it is flush and level, and then firmly tighten all of the bolts.
4. Repeat **Steps 1–3** with all display sections.

> **Note:** When mounting four-section displays to three beams, mounting straps are required on the rear channel along the middle beam to join the horizontal sections together. Refer to **DWG-1115341** for more information.

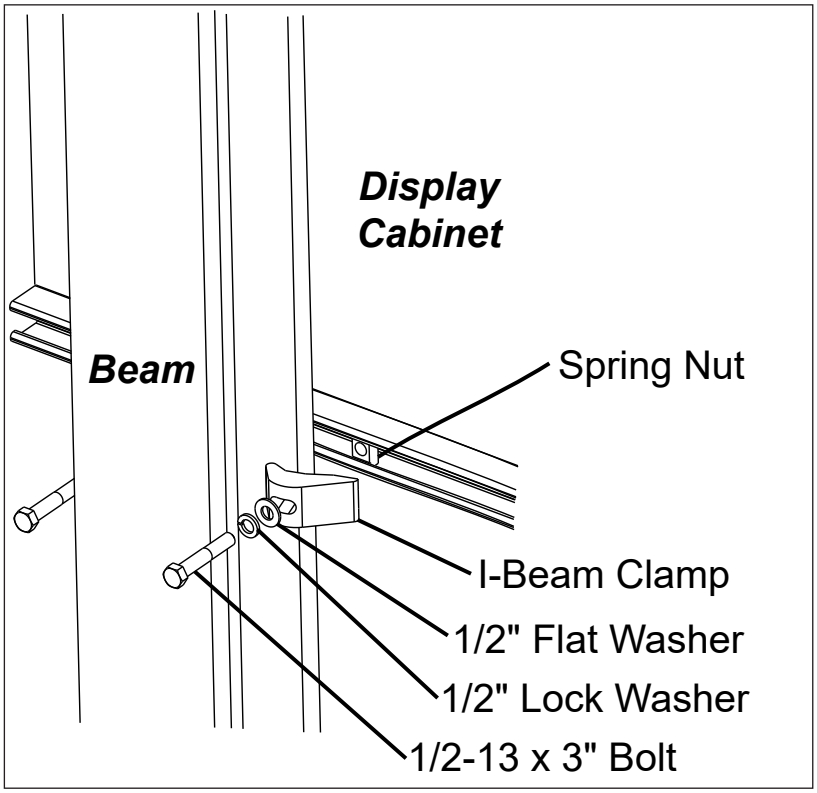


Figure 6: *I-beam Clamp Mounting, Rear Rotated View*

> **Note:** For DSA (California) approved mounting to I-beams, refer to **DWG-1064893**.

I-Beam Clamps (with LVX Displays)

Reference Drawings:

Mtg Straps, 4 Sec SCBD on 3 Poles **DWG-1115341**
P1647; LVX I-Beam Clamp Mounting..... **DWG-3918361**

This mounting method adds space between the scoreboard and beams to make the front flush with an LVX video display. Use this mounting method to mount to I-beams with a flange thickness of 1/4" – 3/4". If the flange is thicker than 3/4", longer bolts will be required at added expense.

Mounting hardware includes unistrut, spring nuts, I-beam clamps, 1/2-13 x 1.5" bolts, 1/2-13 x 3" bolts, 1/2" flat washers, and 1/2" lock washers. Refer to **Figure 7** and **DWG-3918361** in **Appendix B**.

1. Position a display section at the front of the beams, and use four 1/2-13 x 1.5" bolts to attach pieces of unistrut to four spring nuts in the upper and lower rear channels, ensuring they line up with each vertical beam.
2. Lift the display section to the desired height.
3. Slide a lock washer, flat washer, and I-beam clamp onto two 1/2-13 x 3" bolts, and loosely screw these bolts into a second set of spring nuts inside the unistrut. Position each of these I-beam clamp assemblies as close to the I-beam flanges as possible.
4. Make final adjustments to the display section position to ensure it is flush and level, and then firmly tighten all of the bolts.
5. Repeat **Steps 1–4** with all display sections.

> **Note:** When mounting four-section displays to three beams, mounting straps are required on the rear channel along the middle beam to join the horizontal sections together. Refer to **DWG-1115341** for more information.

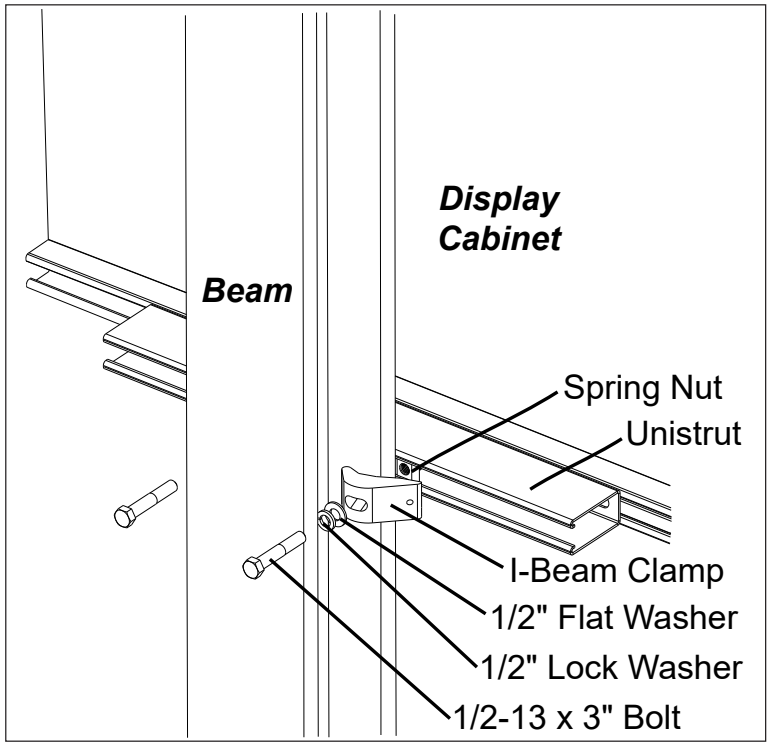


Figure 7: *I-beam Clamp Mounting (LVX), Rear Rotated View*

Clamping Angles

Reference Drawings:

P1647; Pole Mounting Options **DWG-1048184**

Use this mounting method to mount a display to I-beams or any beam/pole that does not have flanges. Mounting hardware includes spring nuts; rear clamping angles; 1/2-13 x 24" threaded rods; and 1/2" nuts, flat washers, and lock washers. Refer to **Figure 8** and **DWG-1048184** in **Appendix B**.

> **Note:** The threaded rods do not pass through the beams; they run along both sides.

1. Screw a threaded rod into each of the spring nuts as far as it will go.
2. Position a display section at the front of the beams with the threaded rods extending from the rear of the spring nuts, straddling the beams.
3. Lift the display section to the desired height.
4. Slide clamping angles over both rods, and then loosely install the washers and nuts.
5. Make final adjustments to the display section position to ensure it is flush and level, and then firmly tighten all of the 1/2" hex nuts.
6. Repeat **Steps 1–5** for all display sections.

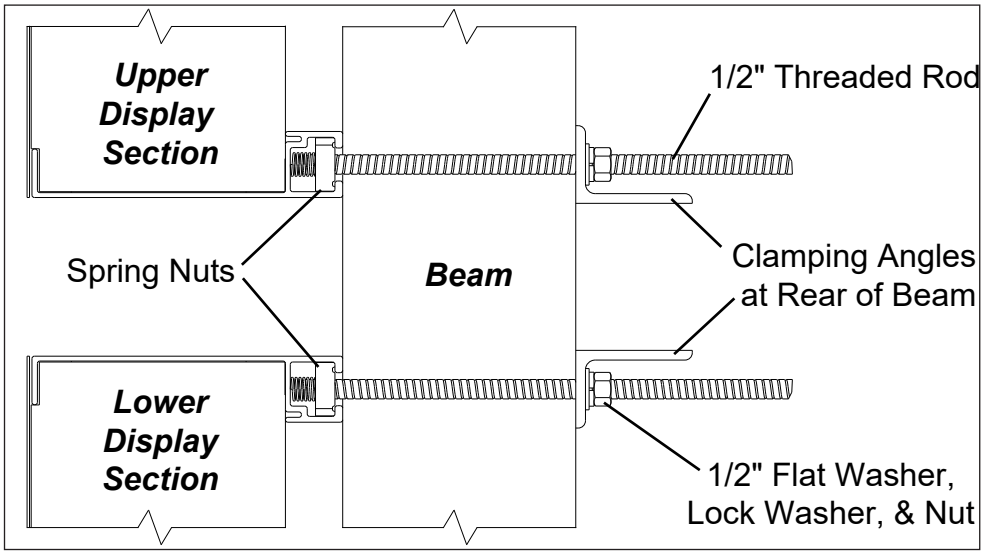


Figure 8: *Clamping Angle Mounting, Side View*

Mounting Tubes

Use this mounting method to mount a display to horizontal beams. The mounting tubes are attached to the cabinet using spring nuts and 1/2" hardware; this may be done during manufacturing or on site. Refer to **Figure 9** and **DWG-1048268** for mounting tube assembly. The clip angles can be adjusted vertically before they are bolted or welded to the horizontal beams. When using this method, recommended attachment method and positioning of display pieces will be provided in **site-specific diagrams**.

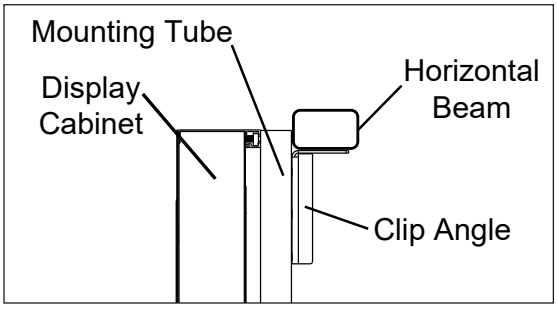


Figure 9: *Mounting Tube Attachment, Side View*

Sheet Metal Cabinet Mounting

Two standard mounting methods are available for displays with sheet metal cabinets.

> **Note:** Do not use lubrication on any mounting hardware or the warranty will be void!

Clamping Angles

Reference Drawings:

Scoreboard Mounting..... **DWG-1130246**

Mounting hardware includes mounting channels; rear clamping angles; 1/2-13 x 15" threaded rods; and 1/2" square nuts, hex nuts, and lock washers. Refer to **Figure 10** and **DWG-1130246** in **Appendix B**.

> **Note:** The threaded rods do not pass through the beams; they run along both sides.

1. Position the display at the front of the beams, and lift it to the desired height.
2. Place a mounting channel against the upper rear flange of the cabinet next to each beam.
3. Using the mounting channel as a template, drill two 9/16" holes in the upper rear flange of the cabinet where the rods will pass through. The rods should be as close to the beam as possible.
4. Place 1/2" square nuts inside the mounting channel, and thread the rods through the rear flange of the cabinet and the mounting channel.
5. Slide clamping angles over the other ends of both threaded rods, and then loosely install the washers and nuts.
6. Make final adjustments to the display position to ensure it is flush and level, and then firmly tighten all of the 1/2" hex nuts.
7. Repeat **Steps 2–6** for the lower rear flange of the cabinet for every beam.

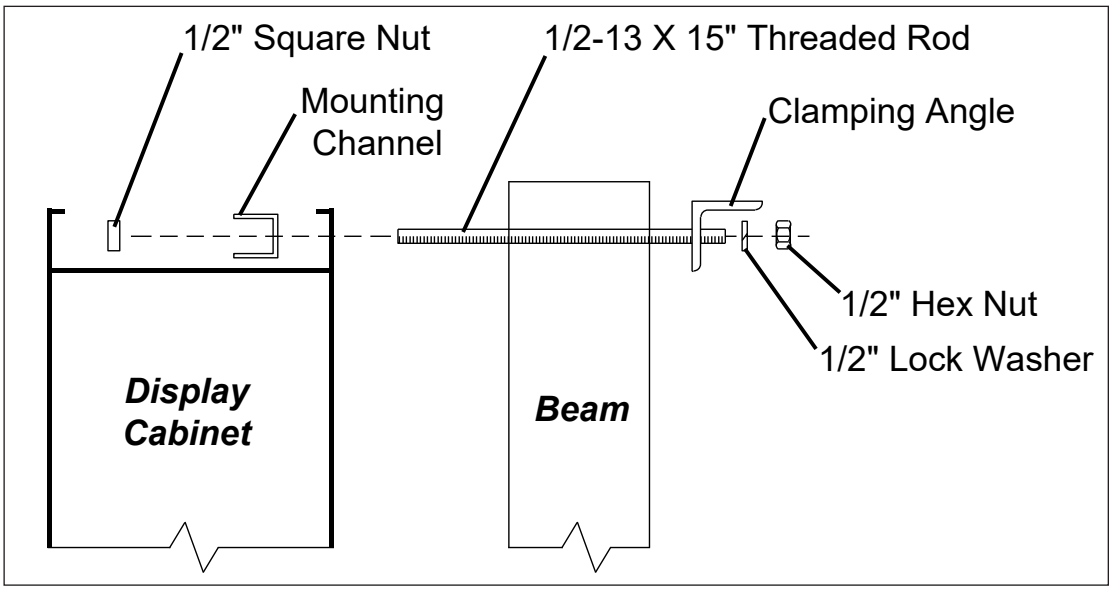


Figure 10: *Clamping Angle Mounting (Sheet Metal), Side View*

I-Beam Clamps

Reference Drawings:

I-Beam Clamp Mounting, Sheet Metal Attachment..... **DWG-1129110**

Use this mounting method to mount a display to I-beams with a flange thickness of 3/16" – 3/4". If flange is thicker than 3/4", longer bolts will be required at added expense.

Mounting hardware includes mounting channels; washer plates; I-beam clamps; 1/2-13 x 3.5" bolts; self-drilling screws; and 1/2" square nuts, flat washers, and lock washers. Refer to **Figure 11** and **DWG-1129110** in **Appendix B**.

1. Position the display at the front of the beams, and lift it to the desired height.
2. Place a mounting channel against the upper rear flange of the cabinet next to each beam.
3. Using the mounting channel as a template, drill two 9/16" holes in the upper rear flange of the cabinet where the bolts will pass through. The bolts should be as close to the beam as possible.
4. Slide a lock washer, flat washer, and I-beam clamp onto each bolt, and then push the bolts through the holes in the rear flange of the cabinet and into the mounting channel.
5. Place the two washer plates and 1/2" square nuts inside the mounting channel, and loosely tighten the square nut onto the bolts.
6. Make final adjustments to the display position to ensure it is flush and level, and then firmly tighten all of the bolts to **40 ft-lb torque**.
7. Screw the self-drilling screws into the rear flange, snug up against the I-beam clamps.
8. Repeat **Steps 2–7** for the lower rear flange of the cabinet for every beam.

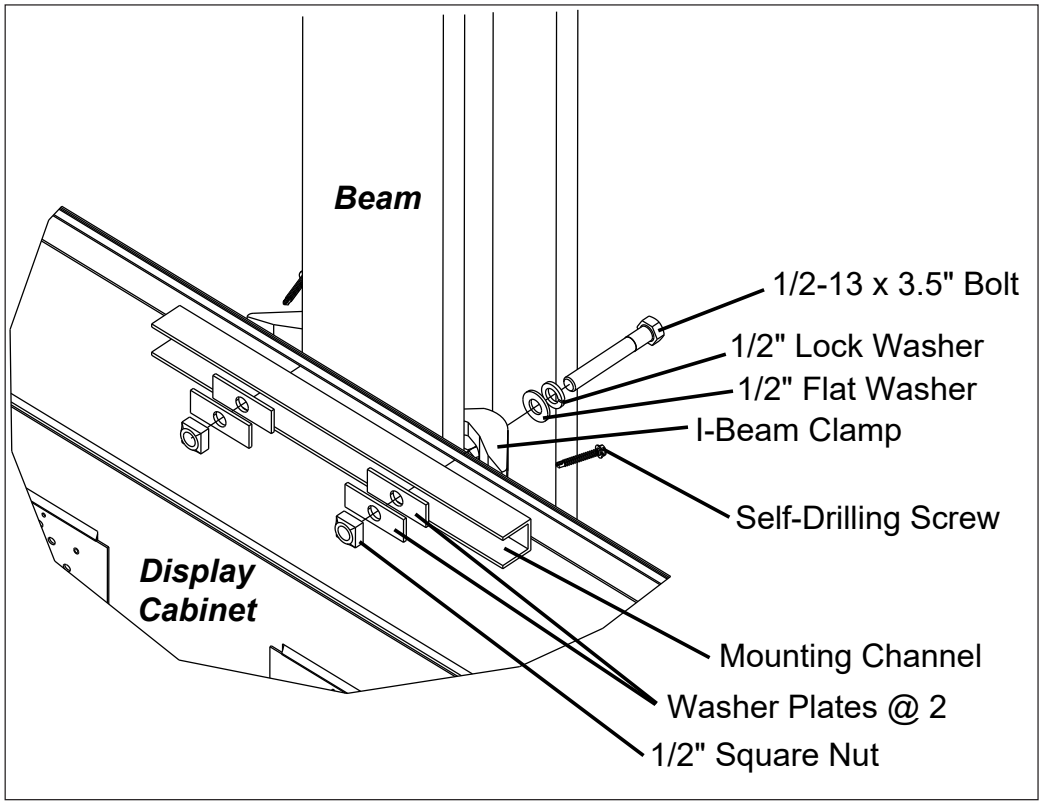


Figure 11: *I-Beam Clamp Mounting, Front Rotated View*

Ad Panel Mounting

Use the mounting methods outlined in this section for static ad panels. These methods are also used for ADPC and ADTI displays.

> **Note:** Do not use lubrication on any mounting hardware or the warranty will be void!

Clamping Angles

Reference Drawings:

Ad Panel Mounting **DWG-52187**

Mounting hardware includes mounting channels; rear clamping angles; 1/2-13 x 15" threaded rods; and 1/2" square nuts, hex nuts, and lock washers. Refer to **Figure 12** and **DWG-52187** in **Appendix B**.

> **Note:** The threaded rods do not pass through the beams; they run along both sides.

1. Position the ad panel at the front of the beams, and lift it to the desired height.
2. Using a clamping angle as a template, drill two 9/16" holes in the upper rear flange of the ad panel cabinet where the mounting channel support will be placed.
3. Position a mounting channel inside the ad panel cabinet along the rear flange as shown in **Figure 12**.
4. Place 1/2" square nuts inside the mounting channel, and thread the rods through the rear flange of the ad panel cabinet and the mounting channel.
5. Slide clamping angles over the other ends of both threaded rods, and then loosely install the washers and nuts.
6. Make final adjustments to the ad panel position to ensure it is flush and level, and firmly tighten all of the 1/2" hex nuts.
7. Repeat **Steps 2–6** for every connection point to the beam. For example, if there are two beams, there will be four connection points.

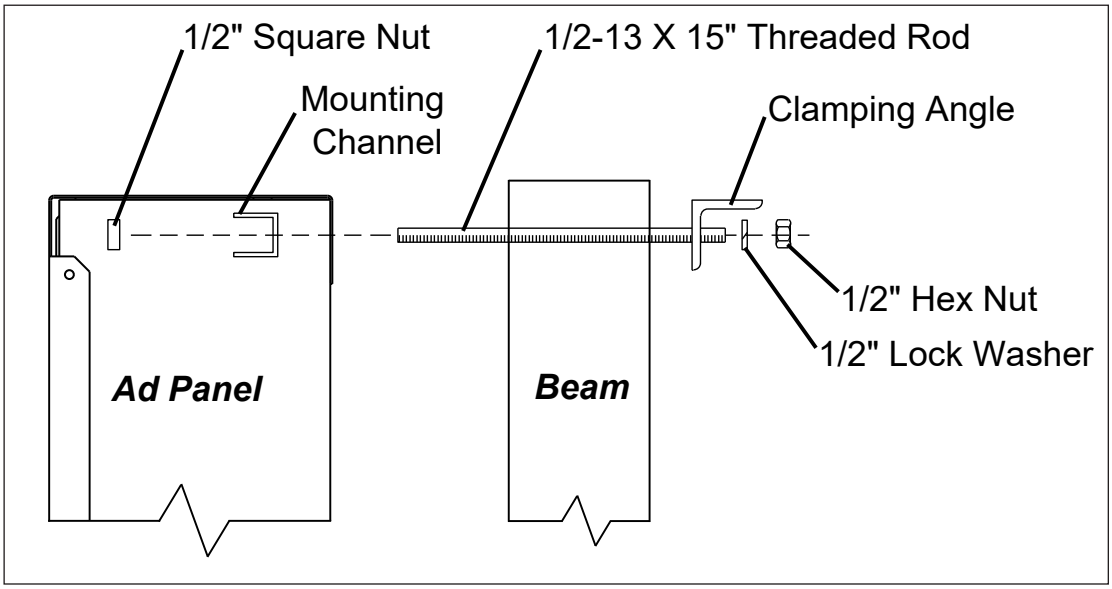


Figure 12: *Ad Panel Clamping Angle Mounting, Side View*

I-Beam Clamps

Reference Drawings:

I-Beam Clamp Mounting, Sheet Metal Attachment..... **DWG-1129110**

Use this mounting method to mount an ad panel to I-beams with a flange thickness of 3/16" – 3/4". If flange is thicker than 3/4", longer bolts will be required at added expense.

Mounting hardware includes mounting channels; washer plates; I-beam clamps; 1/2-13 x 3.5" bolts; self-drilling screws; and 1/2" square nuts, flat washers, and lock washers. Refer to **Figure 13** and **DWG-1129110** in **Appendix B**.

1. Position the ad panel at the front of the beams, and lift it to the desired height.
2. Place a mounting channel inside the upper rear flange of the ad panel cabinet next to a beam.
3. Using the mounting channel as a template, drill two 9/16" holes in the upper rear flange of the accent cabinet where the bolts will pass through. The bolts should be as close to the beam as possible.
4. Slide a lock washer, flat washer, and I-beam clamp onto each bolt, and then push the bolts through the holes in the rear flange of the ad panel and into the mounting channel.
5. Place the two washer plates and 1/2" square nuts inside the mounting channel, and loosely tighten the square nut onto the bolts.
6. Make final adjustments to the ad panel position to ensure it is flush and level, and then firmly tighten all of the bolts to **40 ft-lb torque**.
7. Screw the self-drilling screws into the rear flange, snug up against the I-beam clamps.
8. Repeat **Steps 2–7** for every connection point to the beam. For example, if there are two beams, there will be four connection points.

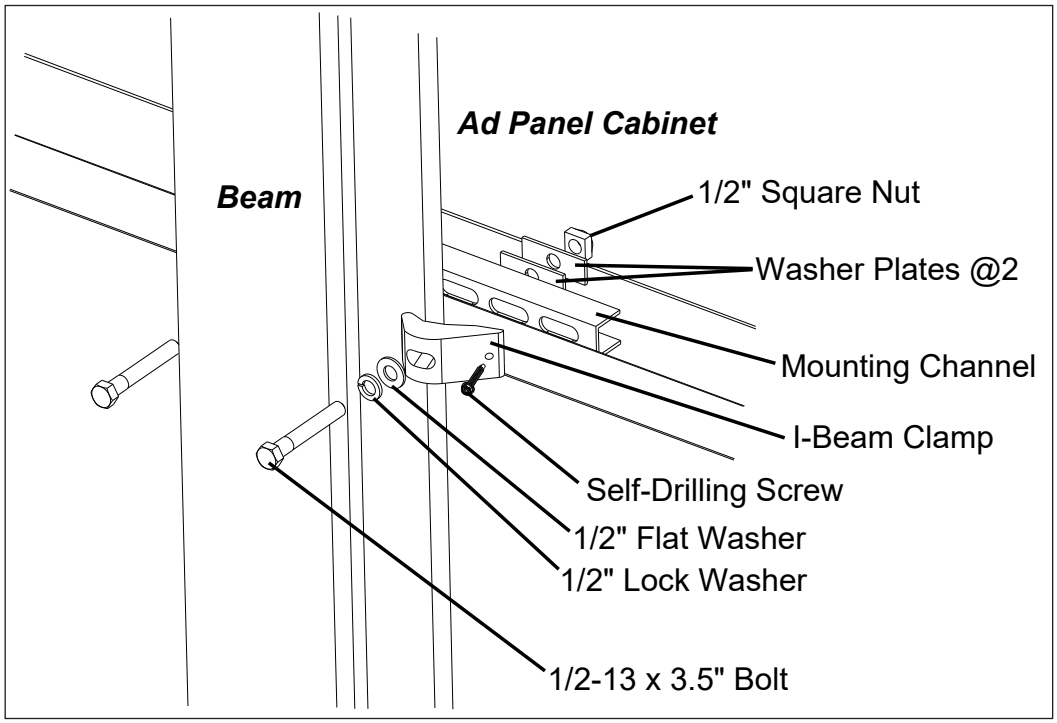


Figure 13: *Ad Panel I-Beam Clamp Mounting, Rear Rotated View*

Unistrut Attachment

1. Using the backup channel as a template, drill four 7/16" holes in the upper and lower rear flanges of the ad panel where each beam will be located.

> **Note:** Try to ensure that the two center holes will be within the width of the beam.

2. If the ad panel has backsheets, remove them as needed to access the ad panel interior.
3. Attach pieces of unistrut to the ad panel with the included 3/8" hardware, as shown in **Figure 14**.
4. If any backsheets were removed, put them back on at this time.
5. Place spring nuts into the unistrut. Twist the spring nuts until they are perpendicular to the unistrut channel. Refer to **Figure 5** from **Extruded Cabinet Mounting (p.5)**.

> **Note:** Ad panel cabinets require four spring nuts per beam (two at the top and two at the bottom).

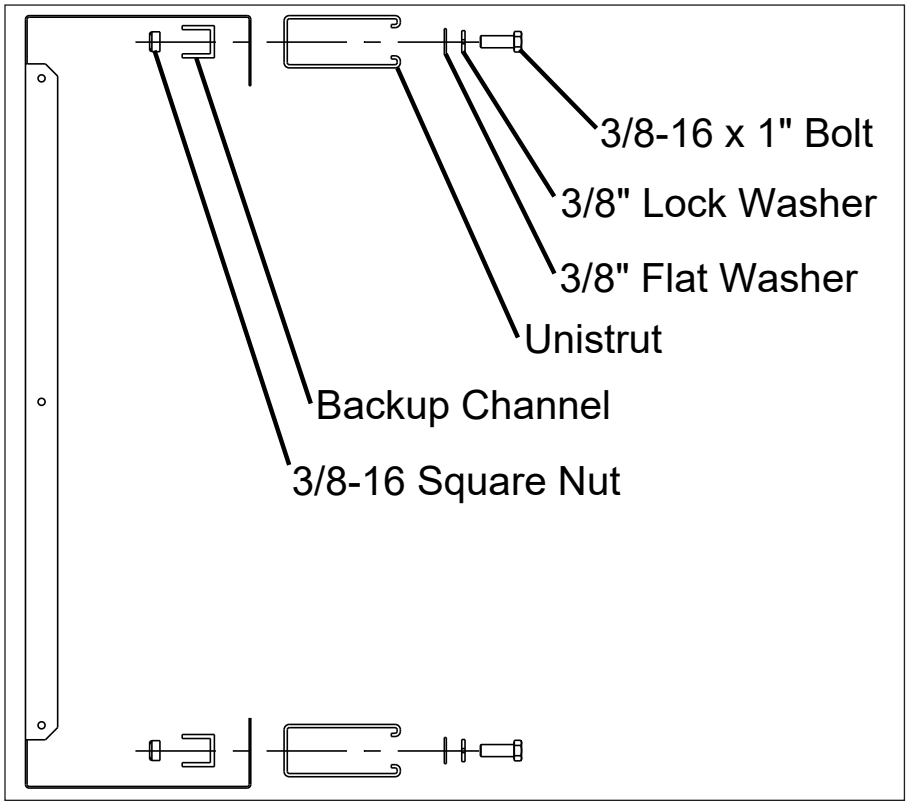


Figure 14: *Unistrut Attachment, Side View*

Once the unistrut is attached and the spring nuts are in place, refer to the appropriate section that follows for the type of mounting hardware provided with the ad panel.

I-Beam Clamps (with LVX Displays)

Reference Drawings:

LVX Ad Panel I-beam Clamp Mounting **DWG-3918326**

Use this mounting method to mount an ad panel to I-beams with a flange thickness of 1/4" – 3/4". If flange is thicker than 3/4", longer bolts will be required at added expense.

Mounting hardware includes I-beam clamps, 1/2-13 x 3" bolts, 1/2" flat washers, and 1/2" lock washers. Refer to **Figure 15** and **DWG-3918326** in **Appendix B**.

1. Position the ad panel at the front of the beams, and lift it to the desired height.
2. Slide a lock washer, flat washer, and I-beam clamp onto each bolt, and loosely screw the bolts into the spring nuts. Position each of these I-beam clamp assemblies as close to the I-beam flanges as possible.
3. Make final adjustments to the ad panel position to ensure it is flush and level, and then firmly tighten all of the bolts.

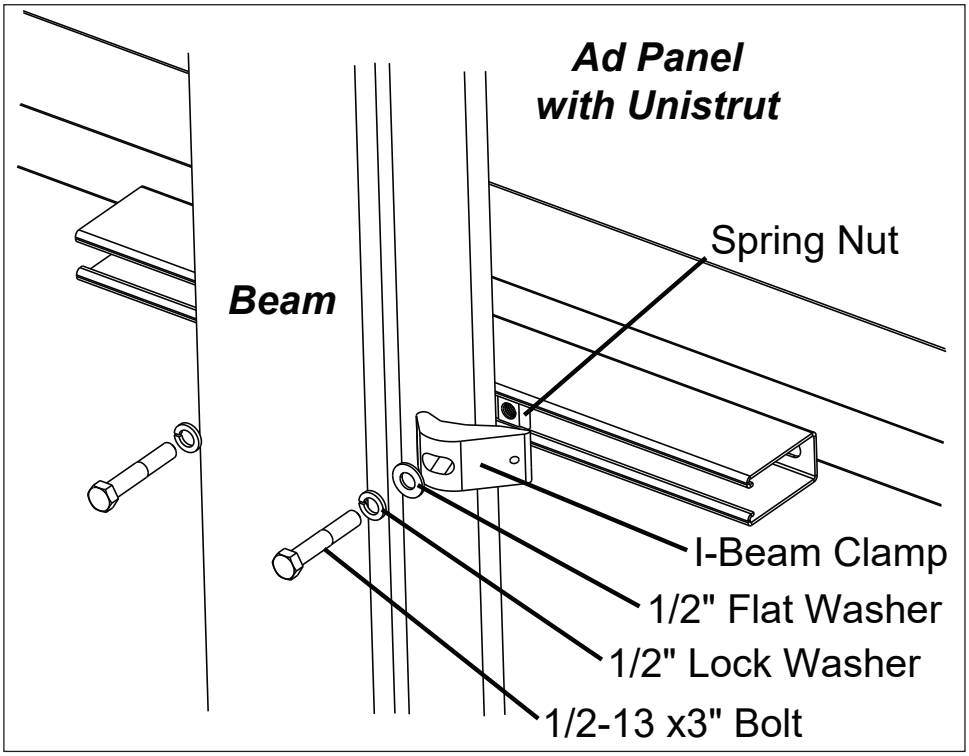


Figure 15: *Ad Panel I-beam Clamp Mounting (LVX), Rear Rotated View*

3 Electrical Installation

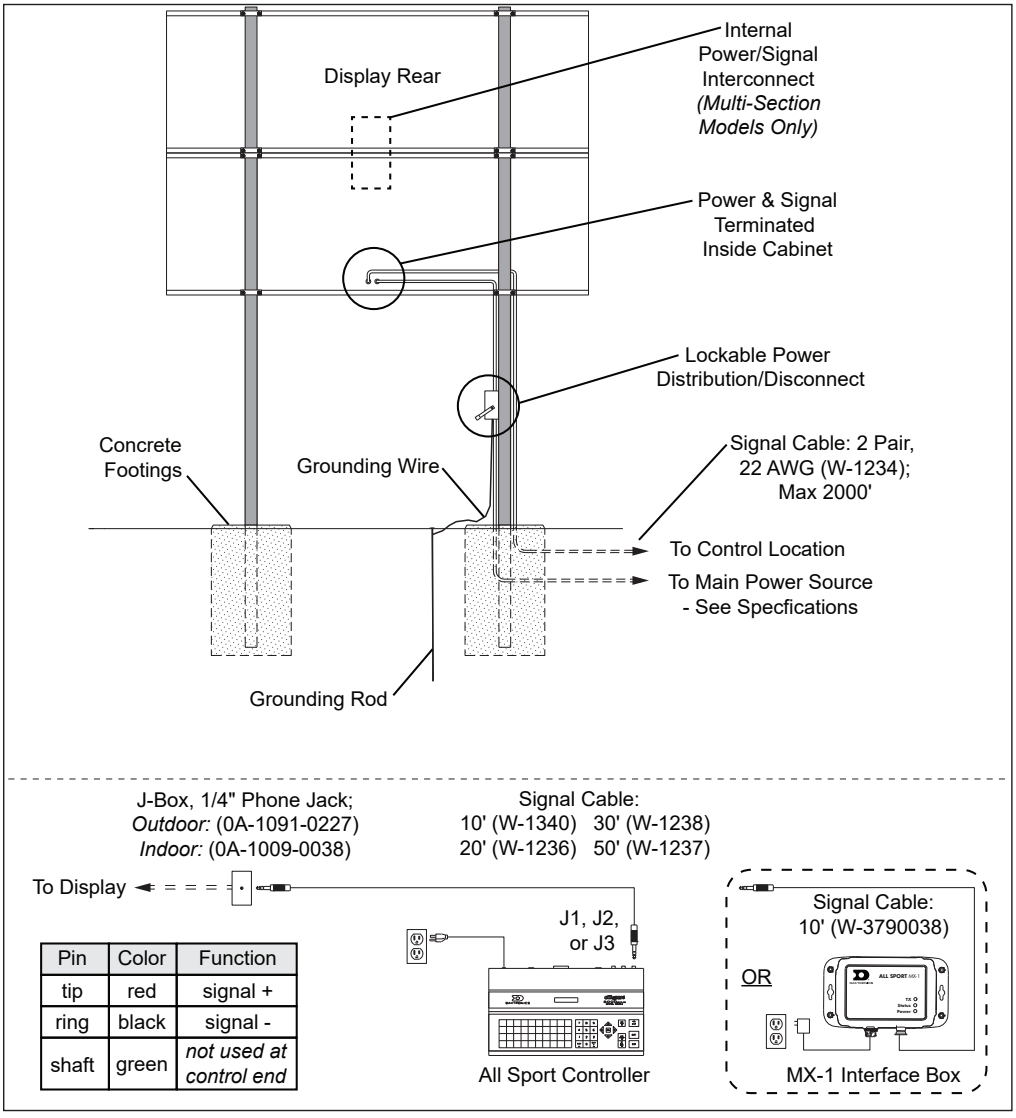
CAUTION: Only qualified individuals should perform routing and termination to the display. Electrical contractors are responsible for ensuring that all electrical work meets or exceeds local and national codes. Daktronics engineering staff must approve all changes or the warranty will be void.

Electrical installation consists of the following processes:

- Providing power and ground to a disconnect near the display.
- Routing power and ground from the main disconnect to the display power/signal enclosure.
- Routing the control signal cable from the control location to the display location and/or installing the wireless radio receiver.

Installation Overview

Figure 16 illustrates a wired setup between a multi-section outdoor display and controller. Daktronics part numbers are shown in parentheses.



Pin	Color	Function
tip	red	signal +
ring	black	signal -
shaft	green	*not used at control end*

Figure 16: *Wired Installation Example*

Figure 17 illustrates a wireless setup between a football scoreboard and controller. Note that the RC-200 handheld controller and base station system is typically only available for use with smaller single-section displays and for single- or multi-court tennis scoreboards.

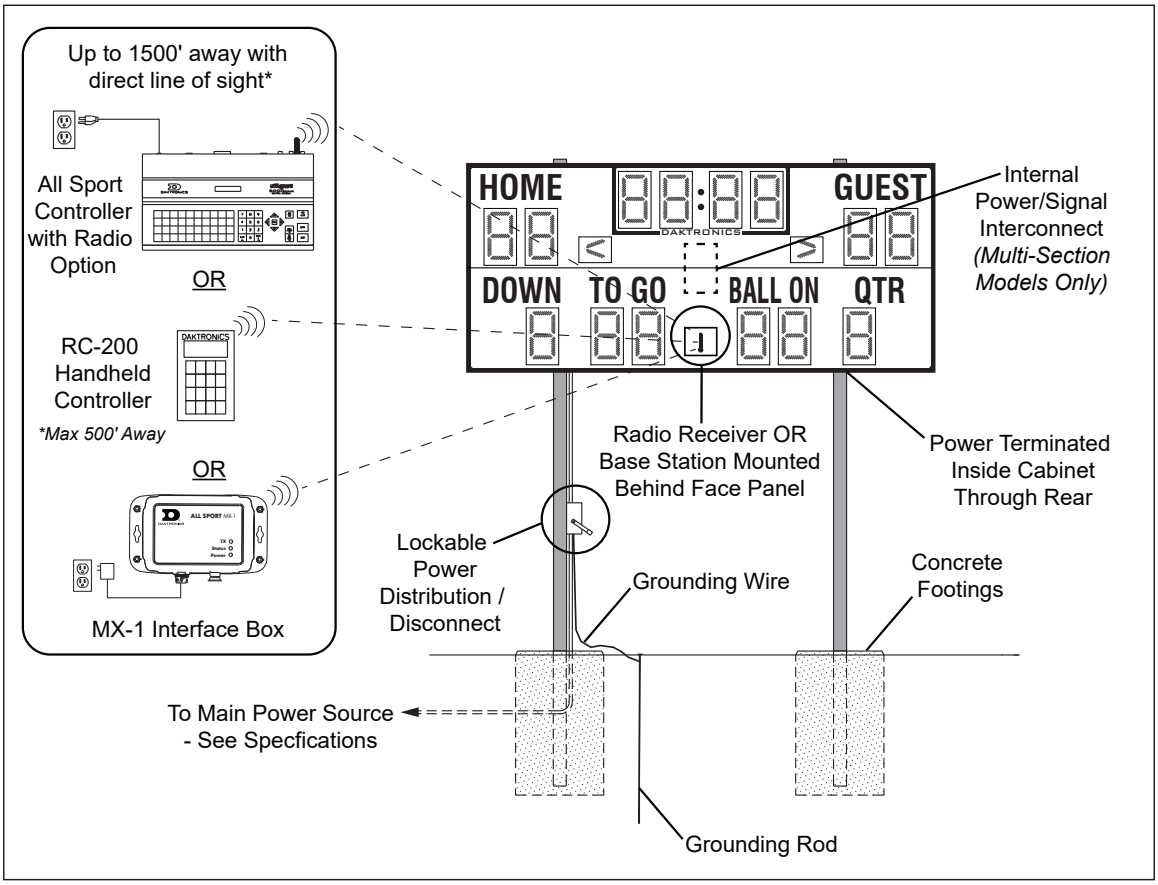


Figure 17: *Wireless Installation Example*

For additional installation examples, such as for multi-court tennis systems, refer to the System Riser drawings attached to the controller manual listed in **Display Controllers (p.2)**.

Power

Only qualified individuals should complete the electrical installation; untrained personnel should not attempt to install these displays or any of the electrical components. Improper installation can seriously damage the equipment and be hazardous to personnel.

Refer to the specification label on the display (**Figure 1**), the label inside the display (**Figure 19**), or the product specification sheets shipped with it (and listed in **Appendix A**) to determine maximum power requirements. Ensure all external overcurrent protection meets all local and national electrical codes and is appropriately sized to the load it is terminating. Failure to meet wiring and overcurrent protection device requirements will void the warranty.

> **Note:** Ensure the display is on a dedicated circuit. This will prevent loss of critical game event information that may otherwise occur if another component on the same circuit should fail.

Grounding

All components of a display system – including but not limited to displays, control equipment, and connected peripheral equipment – must be electrically grounded. Only qualified individuals may perform electrical work, including verification of ground resistance. Daktronics is not responsible for improper grounding or damage incurred as a result of improper grounding.

Grounding methods must meet the provisions of all applicable local and national codes. Inspect and verify all grounding methods meet the provisions of all applicable local and national codes.

Proper grounding is necessary for reliable equipment operation and general electrical safety. Failure to properly ground the display system may void the warranty, disrupt operation, damage equipment, and cause bodily harm or death.

There are two types of power installation: installation with ground and neutral conductors provided, and installation with only a neutral conductor provided. These two power installations differ slightly, as described in the following subsections:

Installation with Ground and Neutral Conductors Provided

For this type of installation, the power circuit must contain an isolated earth-ground conductor. In this circumstance, do not connect neutral to ground at the disconnect or at the display as this would violate electrical codes and void the warranty.

Use a disconnect so that all ungrounded lines can be disconnected. The local and national electrical codes may require using a lockable power disconnect at or within sight of the display.

Installation with Only a Neutral Conductor Provided

Installations where no grounding conductor is provided must comply with local and national electrical codes. If the installation meets all requirements, observe the following guidelines:

- Connect the grounding electrode cable at the local disconnect, never at the display driver/power enclosure.
- Use a disconnect that opens all of the ungrounded phase conductors.

Lightning Protection

The use of a disconnect near the display location to completely cut all current-carrying lines significantly protects the circuits against lightning damage. Local and national electrical codes may also require it. In order for this system to provide protection, the power must be disconnected when the display is not in use.

The control console also should be disconnected from power and from the signal junction box when the system is not in use. The same surges that may damage the display components can also damage the console's circuitry.

Connection

Power and signal cables are routed into the display from the rear via separate conduits. All power and signal wiring terminates at the primary driver enclosure. Note that systems with radio control typically only require signal wiring for backup purposes.

Refer to the component location drawings attached to the product specification sheets listed in **Appendix A** for precise power/signal termination location for each model. For modular and hybrid football scoreboard component locations, refer to the service manual listed in **Troubleshooting (p.2)**.

1. Look for a warning label similar to **Figure 18** to locate the access panel to the driver enclosure.
2. Remove the screws or loosen the latches to open the access door panel.

Figure 18: *Power Warning Label*

3. Remove the metal cover of the driver enclosure by lifting it up, then back and down to expose the driver components.
4. Connect the power wires coming through the rear of the display to the power terminal blocks, as shown in **Figure 19**.

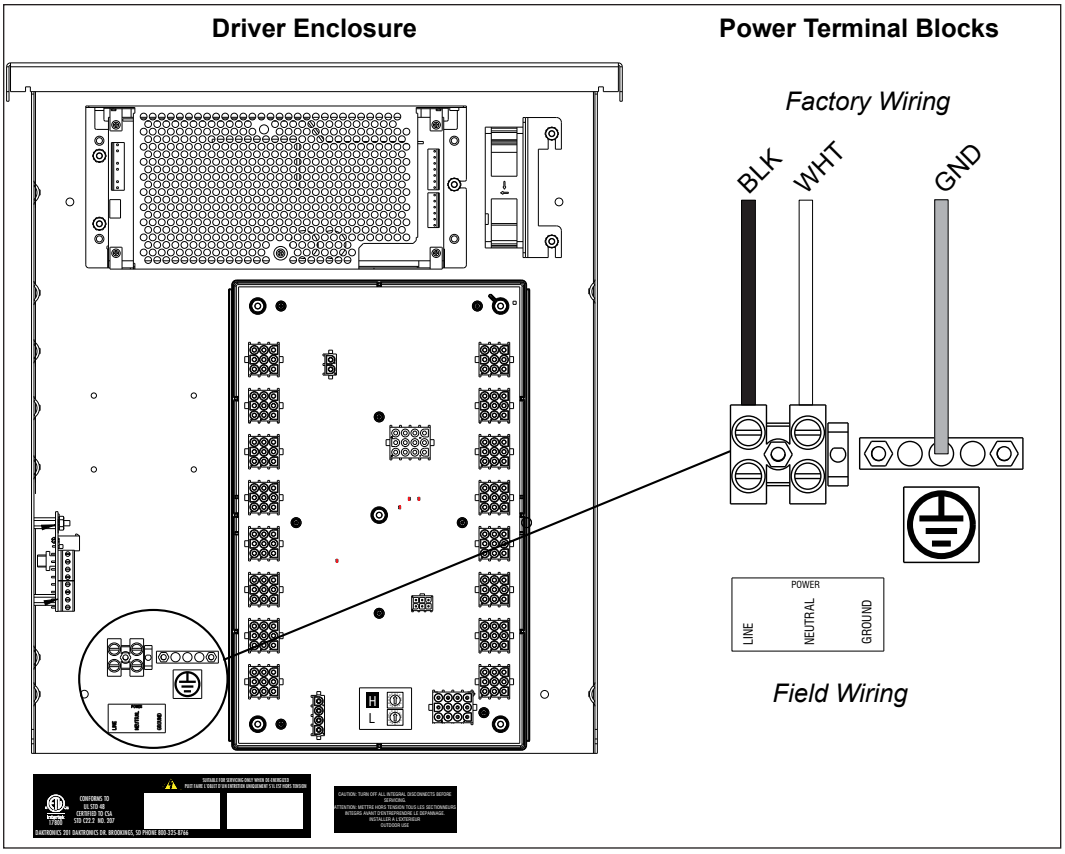


Figure 19: *Driver Enclosure & Power Terminal Blocks (Cover Removed)*

Some modular scoreboard sections do not receive power via terminal block. Instead, an interconnect harness routes from the nearest scoreboard section. Refer to **Power/Signal Connections Between Sections (p.22)**.

> **Note:** If a power receptacle is needed to operate the control console at the display for troubleshooting, an installation electrician must provide an outlet close to the disconnect box specifically for this purpose.

Multi-Court Tennis Power Connection

Daktronics multi-court tennis scoreboards have a built-in breaker for power termination. Refer to the component location drawings in **Appendix A** for precise power/signal termination location for each model.

1. Route the power cables via conduit into rear of display.
2. Look for a warning label similar to **Figure 18** to locate the appropriate access panel to the power breaker enclosure.
3. Loosen the screws or latches to open the access panel.
4. Route the power cables up through the bottom of the enclosure.
5. Use a flathead screwdriver to rotate the two latches 1/4 turn, and then remove the enclosure cover.
6. Connect the power cables as follows and shown in **Figure 20**:
   - neutral (white) wire to NEUT.
   - live wires to LINE 1 (black) and LINE 2 (red)
   - ground wire (green/yellow) to the grounding buss bar, E41
7. Reattach the metal enclosure cover and secure the access panel.

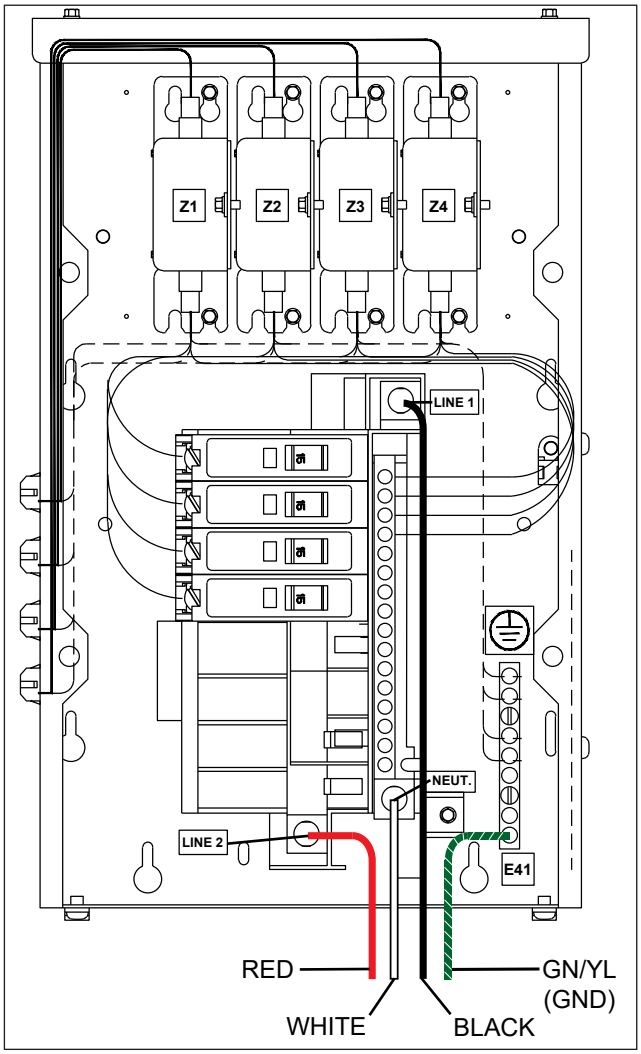


Figure 20: *120/240 VAC Power Panel Termination (Cover Removed)*

Power-On Self-Test (POST)

The display performs a self-test each time that power is turned on and the control console is powered off or not connected. If the control console is connected and powered on, the self-test does not run, and data from the control console appears on the display after a few seconds. Each self-test pattern will vary depending on the model, the number of drivers, and types of digits. **Figure 21** shows an example of the LED bar test pattern that each digit performs.

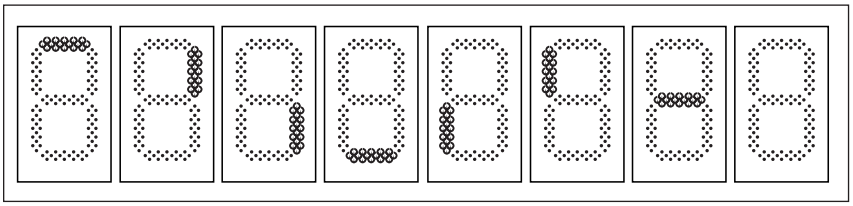


Figure 21: *Digit Segment POST*

Wired Signal Connection

Copper Signal

Route copper signal cable through the conduit knockout on the rear of the display to the signal surge arrestor card (**Figure 22**), located in the primary driver enclosure.

At the **SIGNAL IN** terminal block, connect red signal wire to positive (+) and black signal wire to negative (–).

> **Note:** Ensure shield (silver) wire is properly connected to the **SHLD** terminal.

To connect signal to additional nearby displays, such as delay of game clocks, or to connect multiple modular scoreboard sections, route signal wire in conduit from **SIGNAL OUT** of the signal surge arrestor card in the primary display to **SIGNAL IN** on the signal surge arrestor card in the secondary display.

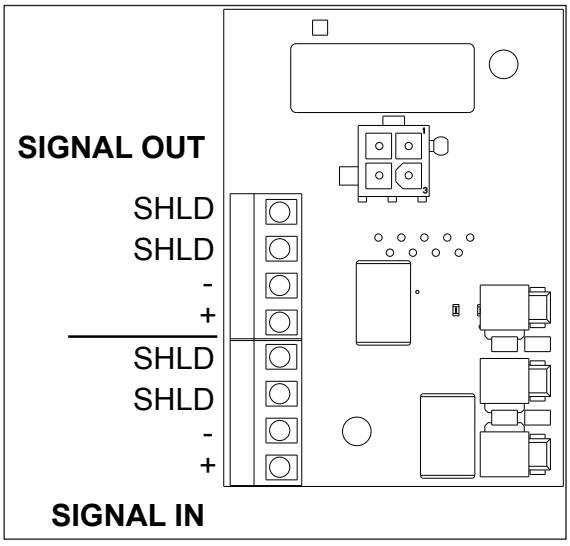


Figure 22: *Signal Surge Arrester Card*

At a minimum, single-pair, shielded cable, 22 AWG (part # W-1077) is recommended. Two-pair shielded cable (part # W-1234) is preferred.

Fiber Optic Signal

Route fiber optic signal cable through the conduit knockout on the rear of the display. The fiber optic cable is terminated to a male ST-type connector and plugged into the **J3** jack on the fiber card (**Figure 23**), located in the primary driver enclosure.

A minimum cabling of multi-mode, 62.5/125 um, and 2-core fiber cable is recommended (part # W-1242). This method requires a signal converter between the All Sport console's scoreboard output and the fiber optic cable (*not provided by Daktronics*).

To connect signal to additional nearby displays, such as delay of game clocks, or to connect multiple modular scoreboard sections, route **copper** signal wire in conduit from **SIGNAL OUT** of the fiber card in the primary display to **SIGNAL IN** on the signal surge arrestor card in the secondary display.

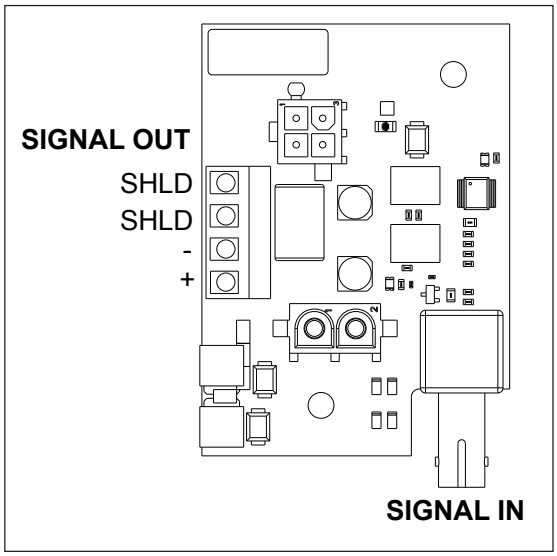


Figure 23: *Fiber Card*

Multiple Driver Connections

Some display models require multiple drivers that use a primary/secondary driver system. Primary and secondary drivers function identically, but secondary enclosures lack the power termination block and signal surge arrestor (or fiber) card. When one section has multiple drivers, they simply plug into one another, and this is done at the factory. Drivers between sections, however, require additional on-site connection. Refer to **Power/Signal Connections Between Sections (p.22)**.

Note: Scoreboards capable of displaying speed of pitch (SOP) have an additional primary driver. These models also require a separate signal connection (either wired or radio) from a dedicated speed of pitch All Sport 5000 console. Refer to the **Baseball Speed of Pitch Systems Configuration Manual (ED-12224)**, available online at www.daktronics.com/manuals.

Wireless Signal Connection

All Sport Radio Control

A wireless radio system requires a radio receiver plugged into the 6-pin **J21** jack on the primary driver and mounted internally to the front panel of the display. For more information, refer to the **Gen VI Radio Installation Manual (DD2362277)**, provided with the receiver unit and available online at www.daktronics.com/manuals.

RC-200 Control

A hand-held RC-200 wireless radio control system requires a base station receiver plugged into the 6-pin **J21** jack on the primary driver and mounted internally to the front panel of the display. For more information, refer to the appropriate manual listed in **Display Controllers (p.2)**.

If an All Sport radio receiver and an RC-200 base station are both installed in the same display, the wireless device that takes precedence is the one that the receiver finds active first; it will control the display until the signal is no longer present.

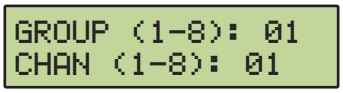
Radio Settings

With an All Sport radio receiver or RC-200 base station installed, watch for the radio Broadcast settings ("b1") and Channel settings ("C1") in the clock digits or Home and Guest scores during the **Power-On Self-Test (POST) (p.20)**. Refer to **Figure 24**.

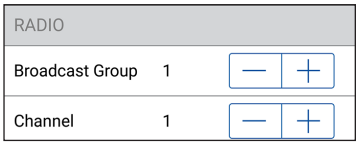
Figure 24: *Radio Settings in Clock Digits*

These values must match the settings in the control console/scoring app. Refer to the controller screens below and the manual listed in **Display Controllers (p.2)**.

All Sport Radio Settings



RC-200 Radio Settings



DAK Score App Settings

If the radio receiver channel and broadcast settings do match those set in the console/scoring app but the display still cannot be controlled, there may be radio interference. This can occur when a nearby display also uses radio control. In this case, change the settings of the wireless radio receiver inside the display as described in the appropriate controller or radio installation manual.

> **Note:** Models BA-2027, BA-2127, BA-2028, and BA-2029 with radio control will have two radio receivers: one for the main scoreboard, and one for the speed of pitch digits. Both receivers must be set to different channels.

Power/Signal Connections Between Sections

Refer to the component location drawings attached to the product specification sheets listed in **Appendix A** for exact driver locations when connecting multiple display sections.

Two-Section Models

Open the appropriate access panel on the Top Section to locate the coiled bundle of interconnect cable coming from the driver, then route and connect the cables as described below and shown in **Figure 25**. Additional panels may be opened as needed for easier access.

Route the 5-pin interconnect cable from the Top Section down into the Bottom Section; connect the **P42** plug into the **J42A** jack on a Y-cable coming from the Primary Driver.

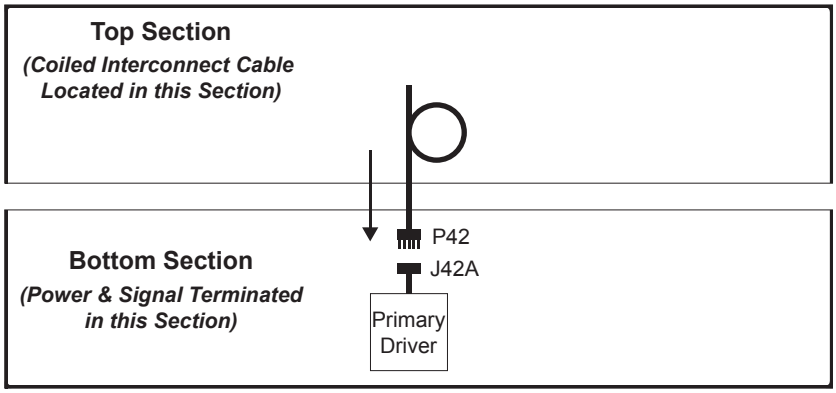


Figure 25: *Power/Signal Connection – Two Sections, Excluding BA Models (Front View)*

- On the MS-2009 with red/amber digits, there will also be five 9-pin digit harnesses (**P11–P15**) in the Bottom Section that must be routed up into the Top Section and plugged into the mating jacks (**J11–J15**) on the Primary Driver.
- For the BA-2025, BA-2027, BA-2125, and BA-2127, route the 5-pin interconnect cable from the Bottom Section up into the Top Section, and connect the **P42** plug to the **J42** jack coming from the Primary Driver (**Figure 26**).

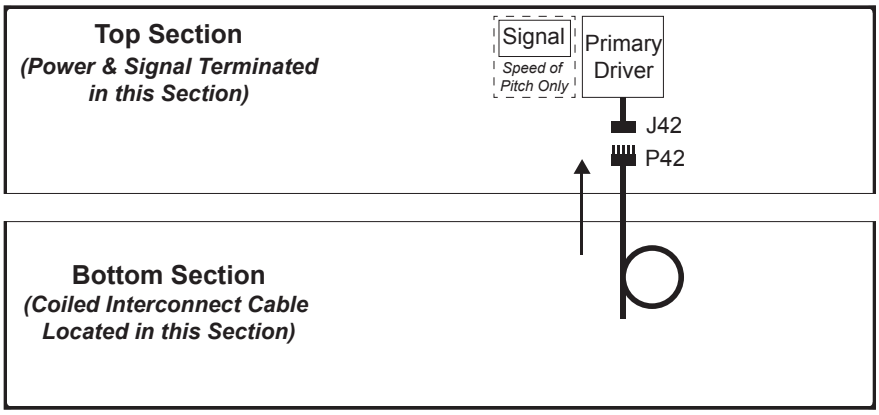


Figure 26: *Power/Signal Connection – Two Sections, BA-2025/7, BA-2125/7 (Front View)*

  - For the BA-2027 and BA-2127, a separate wired signal (copper or fiber optic) must be terminated to a small enclosure in the Top Section to control the speed of pitch digits.
- For the BA-1518 with red/amber digits, there are five 9-pin digit harnesses (**P1–P4** & **P15**) in the Top Section that must be routed down into the Bottom Section and plugged into the mating jacks (**J1–J4** & **J15**) on the Primary Driver. For the BA-1518 with white digits, there is a single 5-pin interconnect cable coiled in the Top Section that must be routed down into the Bottom Section and connected to the **J42A** jack on a Y-cable coming from the Primary Driver (refer to **Figure 25**).

Four-Section Models

BA-2026 and BA-2028

Open the appropriate access panel on the bottom-left cabinet (Section C) to locate the coiled bundles of interconnect cable coming from the driver, then route and connect the cables as described below and shown in **Figure 27**. Additional panels may be opened as needed for easier access.

1. There are four 9-pin digit harnesses (**P8–P11**) in the upper-right cabinet (Section B) that must be routed into the upper-left cabinet (Section A) and connected to the mating **J8–J11** jacks on the Primary Driver.
2. There are also two separate interconnect cables in Section C:
   a. Route the 5-pin interconnect cable with the **P42** plug up into Section A, and connect it to the **J42** jack on the Primary Driver.
   b. Route the 5-pin interconnect cable with the **J43** jack over into the bottom-right cabinet (Section D), and connect to another interconnect cable with the **P42** plug.

> **Note:** For the BA-2028, a separate wired signal (copper or fiber optic) must be terminated to a small enclosure in Section A to control the speed of pitch digits.

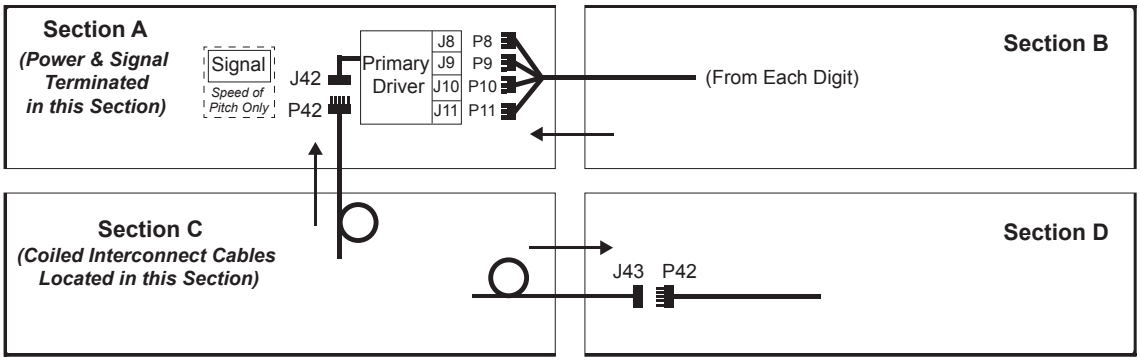


Figure 27: *Power/Signal Connection – Four Sections, BA-2026 & BA-2028 (Front View)*

BA-2029

Open the appropriate access panel on the bottom-left cabinet (Section C) to locate the coiled bundles of interconnect cable coming from the driver, then route and connect the cables as described below and shown in **Figure 28**. Additional panels may be opened as needed for easier access.

1. There are seven 9-pin digit harnesses (**P1–P7**) in the upper-left cabinet (Section A) that must be routed into the upper-right cabinet (Section B) and connected to the mating **J1–J7** jacks on the Primary Driver.

   Note: For models with white digits, the four TIME digits (**P1–P4**) will connect to the Secondary Driver (A7) and the rest will connect to the Primary Driver.

2. There are two separate interconnect cables in Section C:

   - Route the 5-pin interconnect cable with the **P42** plug up into Section A first then over into Section B, and connect it to the **J42** jack on the Primary Driver. For models with white digits, this will connect to the Secondary Driver (A7).
   - Route the 5-pin interconnect cable with the **J43** jack over into the bottom-right cabinet (Section D), and connect it to another interconnect cable with the **P42** plug.

Note: A separate wired signal (copper or fiber optic) must be terminated to a small enclosure in Section B to control the speed of pitch digits.

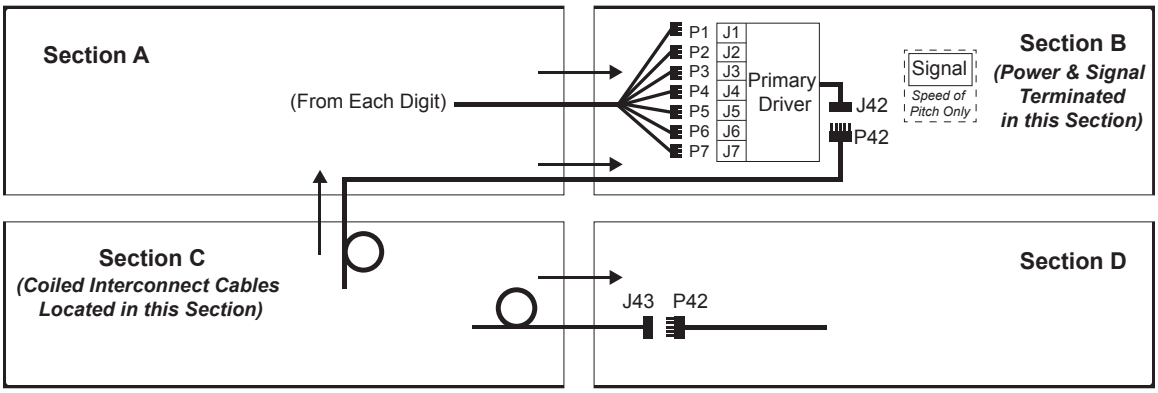


Figure 28: *Power/Signal Connection – Four Sections, BA-2029 (Front View)*

FB-2028

Open the appropriate access panels on the upper-left (Section A) and bottom-left cabinet (Section C) to locate the coiled bundles of interconnect cable coming from the drivers. Refer to **Figure 29**. Additional panels may be opened for easier access.

1. Route the 5-pin interconnect cable with the **J43** jack from Section C over into the bottom-right cabinet (Section D) and connect it to the **P42** plug on another interconnect cable coming from the Secondary Driver.
2. There will also be two separate interconnect cables in Section A:
   - **a.** Route the 5-pin interconnect cable with the **J43** jack over into the upper-right cabinet (Section B) and connect it to the **P42** plug on another interconnect cable coming from the Secondary Driver.
   - **b.** Route the 5-pin (two wire, signal only) cable with the **P42** plug down into Section C, and connect it to the **J42A** jack on a Y-cable coming from the Primary Driver.

Note: The FB-2028 can be thought of as two scoreboards stacked on top of each other. Both Primary Drivers require power termination, but only the A3 driver in Section C requires signal termination from the control location (or a radio receiver installed). Refer to **Power (p.16)** and **Wired Signal Connection (p.20)** or **Wireless Signal Connection (p.21)** for radio.

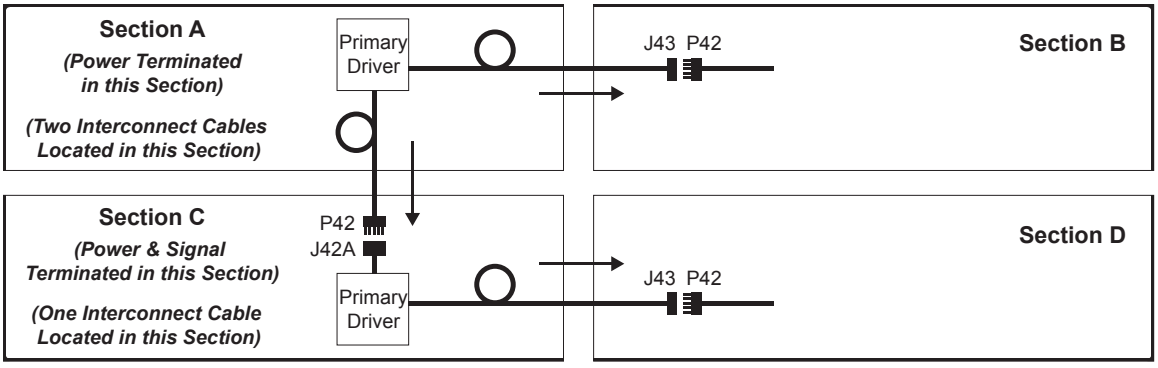


Figure 29: *Power/Signal Connection – Four Sections, FB-2028 (Front View)*

Split Scoreboard Interconnect

Reference Drawings:

Installation Drawing; Split 2 Sec Scoreboard..... **DWG-1060613**

In some installations, scoreboard sections may be mounted farther apart than the length of the internal interconnect harness will allow. For example, a two-section football scoreboard may have a message display in between the top and bottom sections. In these instances, a Split Scoreboard Interconnect Kit (Daktronics part # 0A-1192-1702) is required. Refer to **DWG-1060613** for more information.

Modular Football Scoreboards

The table below lists the scoreboard sections that do not receive main power or signal:

Information Shown	Model #	Driver/ Power Supply Location	Power/Signal Connections	
			Digit Connections	Caption Connections
T.O.L. (HOME)	FB-2531, FB-2533, FB-2536, FB-2538, FB-2540, FB-2545, FB-2547, FB-2549	HOME Score	9-pin P1 to TOL digit; 4-pin to white TOL digit*	5-pin P50 to J50
T.O.L. (GUEST)	FB-2571, FB-2573, FB-2575, FB-2577, FB-2579, FB-2583, FB-2585, FB-2587	GUEST Score	9-pin P10 to TOL digit; 4-pin to white TOL digit*	5-pin P50 to J50
DOWN	FB-2618, FB-2628, FB-2658	TO GO	9-pin P3 to A1-J3; 2-pin P3 to PS1-J3** or PS2-J1***	5-pin P50 to J50; Mod 4-J2 (DOWN) to Mod 1-J1 (TO GO)
QTR (quarter)	FB-2621, FB-2631, FB-2661	BALL ON	9-pin P8 to A1-J8; 2-pin P8 to PS1-J3** or PS2-J1***	5-pin P50 to J50; Mod 1-J1 (QTR) to Mod 4-J2 (BALL ON)

*FB-2545 & FB-2583 only **White 36" digits only ***48" digits only

T.O.L. sections may have up to 3 connections:

- Route the 9-pin plug from the scoring section and connect to the 9-pin jack on the T.O.L. digit.
- For white 36" digits only, route the 4-pin plug from the scoring section and connect to the mating 4-pin jack on the T.O.L. digit breakout board.
- If the T.O.L section includes a backlit or electronic caption, route the 5-pin jack in the scoring section down into the T.O.L. section and connect to the mating 5-pin plug.

DOWN and QTR sections may have up to 4 connections:

- Route the 9-pin plug into the adjacent section and connect to the appropriate jack on the Primary Driver.
- For white 36" and all colors of 48" digits, route the 2-pin plug into the adjacent section and connect to the appropriate jack on the Power Supply.
- If the section includes a backlit or electronic caption, route the 5-pin plug into the adjacent section and connect to the mating 5-pin jack.
- If the section includes an electronic caption, a ribbon cable must be connected between the last module of DOWN and BALL ON electronic captions to the first module of TO GO and QTR electronic captions.

Refer to **Figure 30** for internal power/signal connection guidelines between a T.O.L. section and its mating HOME/GUEST section as well as DOWN/TO GO and BALL ON/QTR sections. Note that power supplies are only required for models with white 36" digits and all colors of 48" digits.

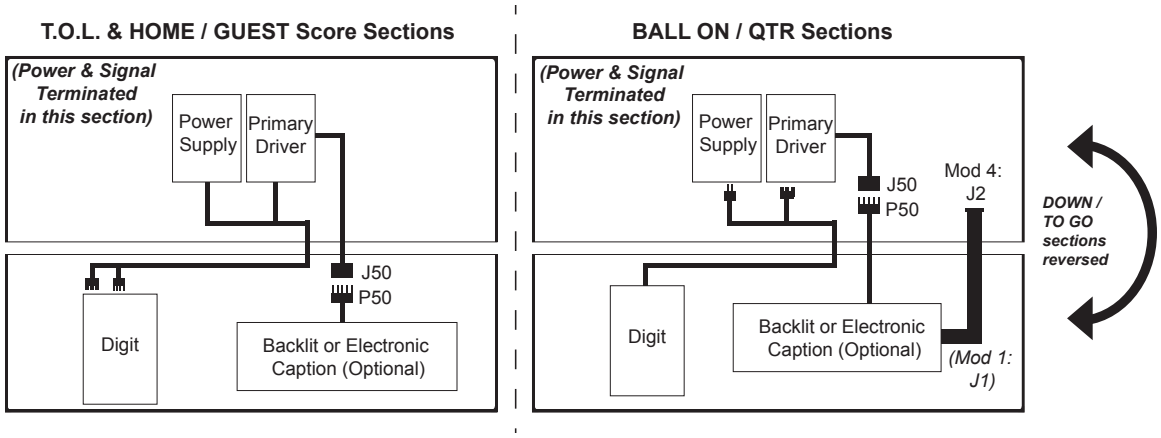


Figure 30: *Modular Power/Signal Interconnections (Front View)*

For sections that are too far apart to use internal interconnects, the signal may be re-driven, or "daisy-chained." Typically, the Game Clock section would receive primary signal from the control location, and signal cable could then branch out to the HOME and GUEST score sections. From there, signal can be re-driven once more to the DOWN/TO GO and BALL ON/QTR sections. Refer to **Figure 31** for an example of re-driving signal.

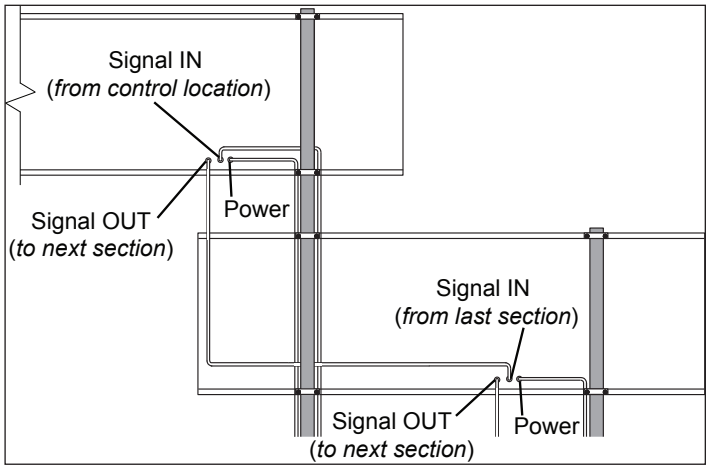


Figure 31: *Re-driving Signal (Rear View)*

Note: For radio-controlled systems, the radio receiver may be located in one section, while signal cable is routed to the other sections as needed.

Three-Section Tennis Models

The primary driver and power panel will be located in the top section. Refer to the component location drawings attached to the product specification sheets listed in **Appendix A** for exact driver locations.

Open access panels as needed to locate the coiled bundles of interconnect cable, then route and connect the cables as described below and shown in **Figure 32**.

1. Route the interconnect cable labeled **P50** coming from the A2 driver in the middle section up into the top section and connect it to the mating **J50** jack coming from the power panel.
2. Route one end of the other interconnect cable labeled **P51** from the middle section up into the top section and connect it to the mating **J51** jack coming from the power panel.
3. Route the other end of the interconnect cable labeled **J52** from the middle section down into the bottom section and connect to the mating **P52** plug coming from the A5 driver.

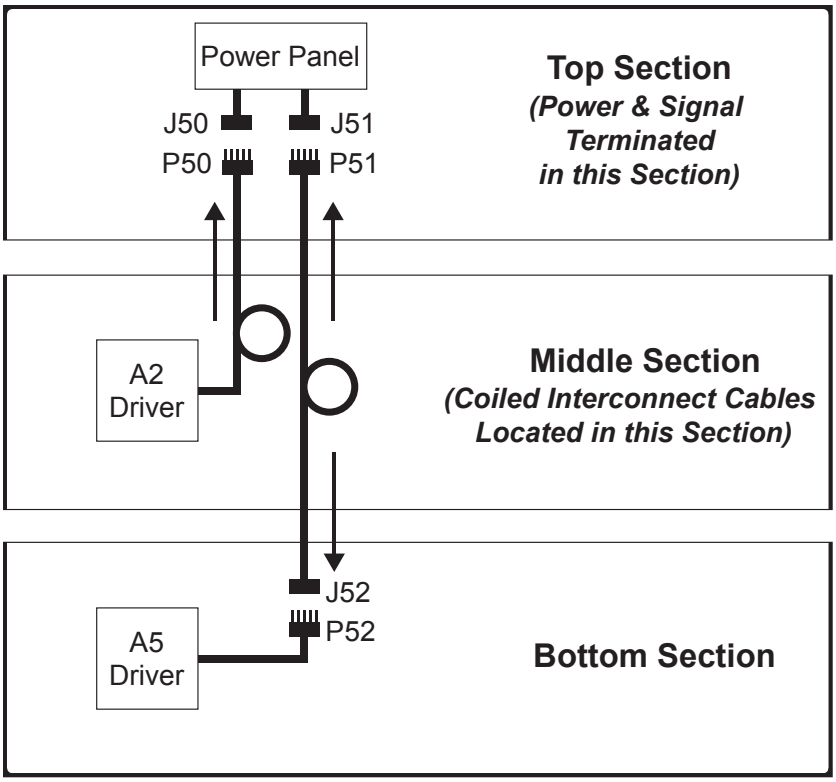


Figure 32: *Power/Signal – TN-2650 & TN-2651*

Four-Section Tennis Models

The primary driver and power panel will be located in the top section (Section A). Refer to the component location drawings attached to the product specification sheets listed in **Appendix A** for exact driver locations.

Open access panels as needed to locate the coiled bundles of interconnect cable, then route and connect the cables as described below and shown in **Figure 33**.

1. Route the interconnect cable labeled **P50** coming from the A3 driver in Section B up into Section A and connect it to the mating **J50** jack coming from the power panel.
2. Route one end of the interconnect cable labeled **P51** from Section B up into Section A and connect it to the mating **J51** jack coming from the power panel.
3. Route one end of the interconnect cable labeled **P52** from Section B up into Section A and connect it to the mating **J52** jack coming from the power panel.
4. Route the interconnect cable labeled **P51** coming from the A5 driver in Section C up into Section B and connect it to the interconnect cable labeled **J51**.
5. Route the interconnect cable labeled **P52** in Section C up into Section B and connect it to the interconnect cable labeled **J52**.
6. Route the interconnect cable labeled **P53** coming from the A7 driver in Section D up into Section C and connect it to the interconnect cable labeled **J53**.

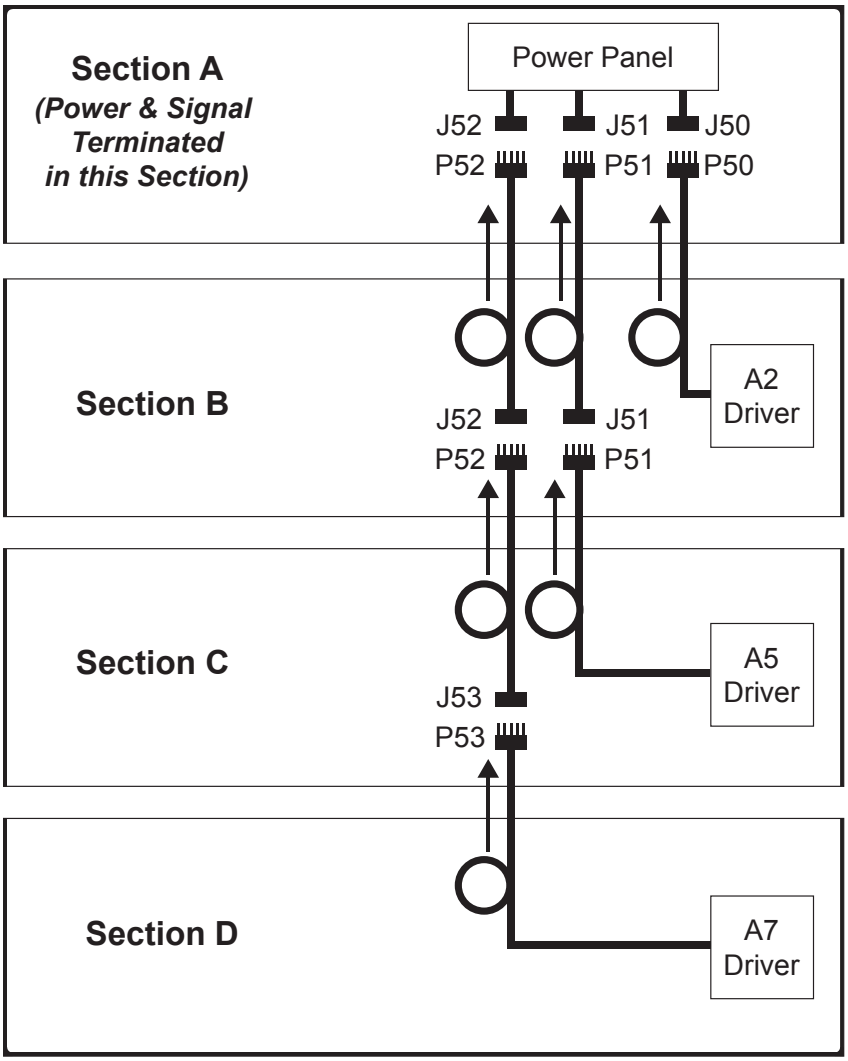


Figure 33: *Power/Signal – TN-2652 & TN-2653*

Pari-mutuel Displays

Each pari-mutuel display model requires power, while one display may receive signal and re-drive it to other displays (refer to **Figure 31** for an example of re-driving signal).

All pari-mutuel displays are composed of two sections. In order for power and signal to reach both sections, an interconnect cable from the primary driver in one section must be connected to the driver in the other section. The location of these drivers varies, but the connectors always include a 5-pin plug labeled **P50** and a mating jack labeled **J50**. Refer to the schematic drawings in the service manual for detailed driver interconnect diagrams.

Note: Since the PM-2101 has two sections but only one driver, it requires individual digit harnesses to be routed from the top section down into the bottom and connected to the appropriate jacks in the driver. Refer to the component location drawing (attached to product specification sheet listed in **Appendix A**) for the proper digit output numbers of the top digits.

4 Scoreboard Options

Time of Day Mode

Time of Day (TOD) mode allows the scoreboard to function as a clock when no All Sport signal is present.

> **Note:** TOD mode is available on scoreboards with driver firmware version 1.0 or higher. Also, the scoreboard must have at least four clock digits.

To enable Time of Day mode:

1. **Shut off power to the scoreboard at the breaker.**
2. Access the scoreboard driver to which the clock digits are connected. Refer to the component location drawings attached to the product specification sheets listed in **Appendix A**.
3. At the bottom of the driver are two address switches labeled "H" and "L."

   Record the position of both switches here as they will need to be returned to their exact positions later:

H	
L	

4. Use a small flathead screwdriver to move both H and L address switches to the "F" position (**Figure 34**). This will set the scoreboard driver to Diagnostics Mode.
5. Reapply power to the scoreboard. If the driver has successfully entered Diagnostics Mode, the "RUN" LED (DS2) will be blinking at a fast rate, about four times per second.
6. Rotate the L address switch to the "0" position (**Figure 35**). The "232" LED (DS1) will blink to show a change has been made:
   - Three blinks = Time of Day Enabled
   - Two blinks = Time of Day Disabled
7. To exit Diagnostics Mode, rotate the High address switch (H) to any value other than "F."

   THIS STEP MUST BE PERFORMED TO SAVE THE TIME OF DAY SETTING!
8. Set both address switches back to their original positions as recorded in **Step 3**. Note that the "RUN" LED (DS2) will now be blinking slower, about once per second, and the scoreboard will finish the power-up sequence to operate as normal.

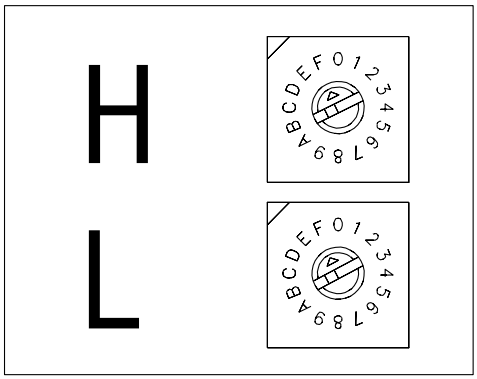


Figure 34: *Address Switch Settings – Diagnostic Mode*

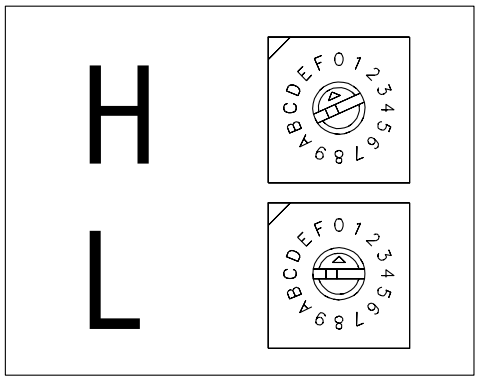


Figure 35: *Address Switch Settings – Time Of Day Mode Enable*

To adjust the Time of Day settings, refer to the All Sport control console operation manual.

Team Name Message Centers and Electronic Captions

Team Name Message Centers (TNMCs) are programmable LED displays that allow scoreboards to show custom Home and Guest names. Electronic captions, on the other hand, are pre-programmed to only show specific labels to match the captions for a particular sport mode, making it much simpler to switch between sports. TNMCs and electronic captions are typically factory-installed, but they can also be added later, after the scoreboard has been mounted. For more information about TNMCs or electronic captions, contact a Daktronics representative or refer to the service manual listed in **Troubleshooting (p.2)**.

Trumpet Horns

Trumpet horn options are available for installation only on scoreboards that have clocks. There are two types of optional trumpet horns:

- Internally mounted 120 V trumpet horn
- Externally mounted 12 VDC trumpet horn

A 120 V trumpet horn cannot be installed in a scoreboard running on 240 V power. For more information about trumpet horns, contact a Daktronics representative or refer to the **Outdoor Scoreboard Horns Installation Manual (DD3088739)**, available online at www.daktronics.com/manuals.

Time Outs Left (T.O.L) Digits

Certain scoreboards have the option to add time outs left (T.O.L.) digits for both the home and guest teams. These digits are installed by simply unscrewing the blank face panel, connecting and securing the digit panel, and manually applying the "T.O.L." vinyl caption. The following scoreboard models in this manual have optional T.O.L. digits:

- 15" tall digits – FB-2018, FB-2019, FB-2020, SO-2018
- 18" tall digits – FB-2021, FB-2022, SO-2021, SO-2023

Changeable Caption Kits

Caption kits contain hardware for one caption only and consist of an upper caption retainer, a lower caption retainer, a changeable caption panel, and self-tapping screws.

The standard HOME and GUEST captions are applied directly to the face of the scoreboard. Team name captions are on changeable panels that fit into retainers mounted above and below the HOME and GUEST captions. If these retainers are not already present, attach the retainers included with the caption kit. Other caption kits are available to show different information for different sports.

To install a changeable panel, lift the panel all the way up into the upper retainer first, and then insert the bottom of the panel into the lower retainer. Reverse this procedure to remove the caption panel.

Protective Devices

Daktronics makes optional protective devices, including screens and netting, to help prevent damage to the display due to normal ball impacts.

Note: Some customers may choose to install devices to protect the display from projectiles. Protective devices not provided by Daktronics must be approved by Daktronics prior to installation. Failure to follow this approval procedure will void the warranty.

5 Daktronics Exchange and Repair & Return Programs

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:

Model Number: _____

Assembly Number: _____

Job/Contract Number: _____

Date Manufactured/Installed: _____

Daktronics Customer ID Number: _____

To participate in the Exchange Program, follow these steps:

1. **Call Daktronics Customer Service.**

   United States & Canada: 1-800-DAK-TRON (325-8766)

   Outside the U.S. & Canada: +1-605-275-1040

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 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.

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 Daktronics Customer Service.**

   United States & Canada: 1-800-DAK-TRON (325-8766)

   Outside the U.S. & Canada: +1-605-275-1040

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

5. **Ship to:**

   Daktronics Customer Service

   [Case #]

   201 Daktronics Drive, Dock E

   Brookings, SD 57006

Daktronics Warranty & Limitation of Liability

The Daktronics Warranty & Limitation of Liability is located at the end of this manual. The Warranty is independent of Extended Service agreements and is the authority in matters of service, repair, and operation.

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A Specifications

All of the product specification sheets for the displays in this manual are listed below. Product-specific installation and component location drawings are included with each spec sheet.

> **Note:** Refer to **Figure 1** to determine a display's model number.

Viewing Product Specifications Online:

If a specification sheet is incorrect or missing, they are all available for download online.

- When viewing the digital version of this manual, simply click a link below to open it.
- When referencing the printed version of this manual, open an Internet browser and go to **www.daktronics.com/Web%20Documents/HSPR-Documents/DD#######.pdf** (replace "DD#######" with one of the Spec Sheet numbers shown below).

Single-Section Scoreboards

Model	Spec Sheet	Model	Spec Sheet	Model	Spec Sheet
ADPC-2023	DD3730253	BA-2518	DD1739303	MS-2032	DD4046839
ADPC-2031	DD3730274	BA-2618	DD1734727	MS-2126	DD3312907
ADPC-2033	DD3730287	BA-2715	DD1734734	MS-3918	DD1734766
ADPC-2034	DD3730298	BA-2718	DD1734740	RO-2010	DD1756861
ADTI-2003	DD4709955	CR-2002	DD1756601	RO-2011	DD1756894
ADTI-2019	DD4709957	CR-2003	DD2167525	RO-2019	DD3634134
ADTI-2032	DD4709958	FB-824	DD2167261	SO-918	DD2167442
BA-618	DD2118104	FB-4005	DD1734755	SO-2008	DD2167448
BA-624	DD2118116	FB-2030	DD2190567	SO-2013	DD2167468
BA-2005	DD2118134	FB-2036	DD4757173	SO-2918	DD1734747
BA-2010	DD2121807	FB-2037	DD4757185	TI-218	DD1757007
BA-2014	DD2118163	FB-2038	DD4757195	TI-2003	DD1757027
BA-2017	DD2118169	MS-915	DD1756705	TI-2010	DD1757109
BA-2019	DD2118182	MS-918	DD2167408	TI-2012	DD1757303
BA-2022	DD2118191	MS-2002	DD2167412	TI-2015	DD1757334
BA-2023	DD3023964	MS-2004	DD2167420	TI-2019	DD1757391
BA-2030	DD2467046	MS-2006	DD2240343	TI-2024	DD2191318
BA-2031	DD3023984	MS-2012	DD2167432	TI-2032	DD1893381
BA-2032	DD3193775	MS-2024	DD1745306	TI-2033	DD3017701
BA-2033	DD3504339	MS-2025	DD1745311	TI-2034	DD3632181
BA-2034	DD3504365	MS-2028	DD3645470	TI-2035	DD3632311
BA-2035	DD3504441	MS-2029	DD3645488		
BA-2515	DD1734711	MS-2030	DD4042205		

Multi-Section Scoreboards

Model	Spec Sheet	Model	Spec Sheet	Model	Spec Sheet
BA-1518	DD2118098	FB-2020	DD2167285	MS-2009	DD2167425
BA-2025	DD1969963	FB-2021	DD2167297	MS-2027	DD3245595
BA-2026	DD1972163	FB-2022	DD2167302	MS-2031	DD4042208
BA-2027	DD1972393	FB-2023	DD2167306	MS-2918	DD2167437
BA-2028	DD1972415	FB-2024	DD2167351	SO-2011	DD2167461
BA-2029	DD1972427	FB-2025	DD2167356	SO-2019	DD2167485
BA-2125	DD2594524	FB-2026	DD2167363	SO-2021	DD2167495
BA-2127	DD2594535	FB-2027	DD2167369	SO-2023	DD2167513
FB-2018	DD2167274	FB-2028	DD1972444	SO-2043	DD1956444
FB-2019	DD2167276	FB-3010	DD2196899		

Modular Football Scoreboards

Model	Spec Sheet
FB-2500 & FB-2600 Series	DD2216211

Hybrid Football Scoreboards

Model	Spec Sheet
FB-2700 Series	DD3646059

Tennis Scoreboards

Model	Spec Sheet	Model	Spec Sheet
TN-2603	DD2731384	TN-2651	DD2731389
TN-2604	DD2731386	TN-2652	DD2731390
TN-2605	DD2731387	TN-2653	DD2731391
TN-2606	DD1073328	TN-2654	DD2731393
TN-2607	DD1073391	TN-2655	DD2731394
TN-2609	DD3310657	TN-2656	DD2731397
TN-2650	DD2731388	TN-2657	DD2731399

Pari-Mutuel Displays

Model	Spec Sheet	Model	Spec Sheet
PM-2100	DD2910222	PM-2108	DD2910230
PM-2101	DD2910223	PM-2109	DD2910232
PM-2102	DD2910224	PM-2110	DD2910233
PM-2103	DD2910225	PM-2111	DD2910235
PM-2104	DD2910226	PM-2112	DD2910236
PM-2105	DD2910227	PM-2113	DD2910238
PM-2106	DD2910228	PM-2114	DD2910239
PM-2107	DD2910229		

B Reference Drawings

Refer to **Resources (p.1)** for information regarding how to read the drawing number. Any contract-specific drawings take precedence over these general drawings.

Reference Drawings:

Ad Panel Mounting **DWG-52187**
P1647; Pole Mounting Options **DWG-1048184**
P1647 MTG Tube Assembly Detail **DWG-1048268**
P1647; I-beam Clamp Mounting **DWG-1052565**
Installation Drawing; Split 2 Sec Scoreboard **DWG-1060613**
P1647; DSA I-Beam Clamp Mounting **DWG-1064893**
Ad Panel DSA I-beam Clamp Mounting **DWG-1064894**
Mtg Straps, 4 Sec SCBD on 3 Poles **DWG-1115341**
I-Beam Clamp Mounting, Sheet Metal Attachment **DWG-1129110**
Scoreboard Mounting **DWG-1130246**
LVX Ad Panel I-beam Clamp Mounting **DWG-3918326**
P1647; LVX I-Beam Clamp Mounting **DWG-3918361**

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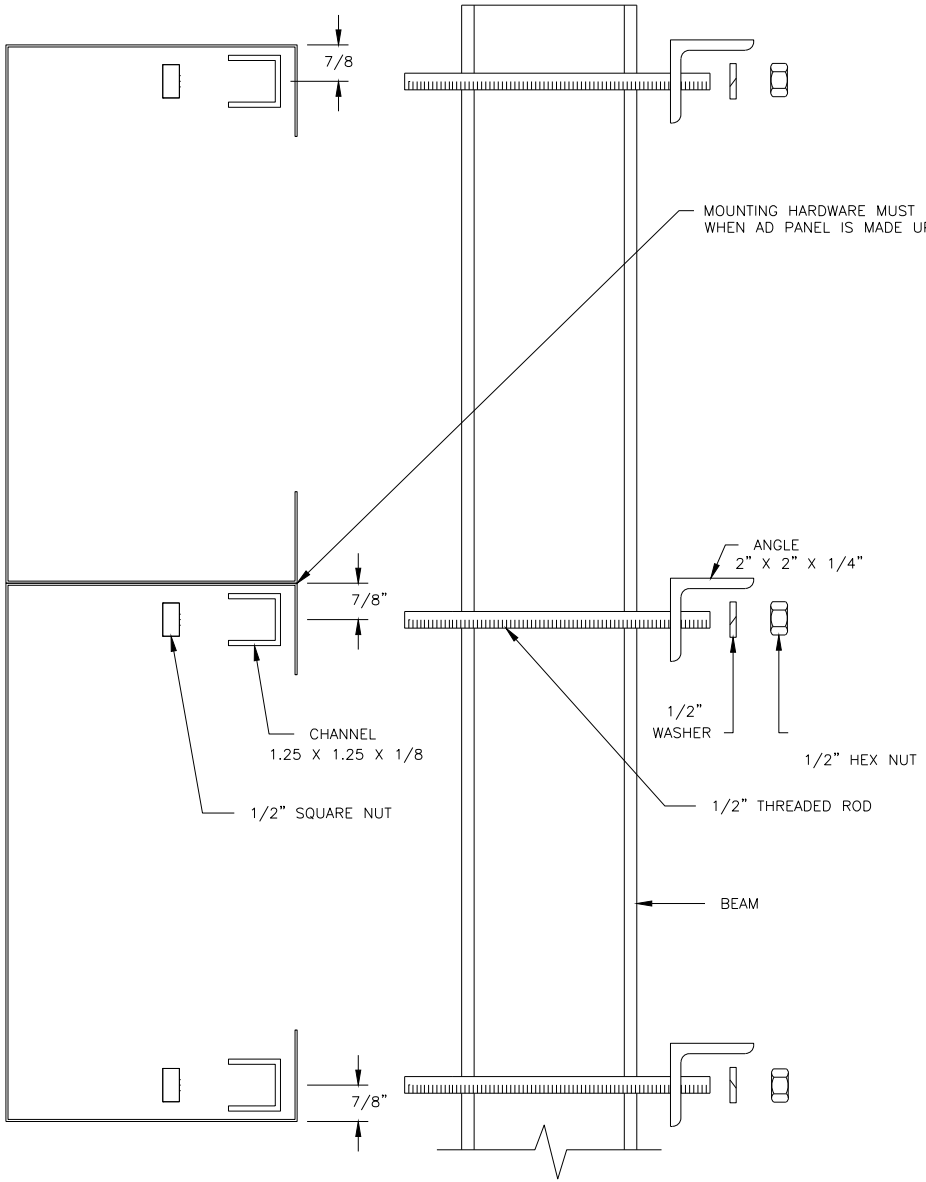


MOUNTING INSTRUCTIONS:

1. USE THE MOUNTING CHANNEL TO DETERMINE WHICH HOLE COMBINATION SHOULD BE USED. BE SURE TO KEEP THE BOLTS AS CLOSE TO THE BEAM AS POSSIBLE.
2. USING THE MOUNTING CHANNEL AS A TEMPLATE, DRILL 9/16" HOLES IN THE UPPER AND LOWER REAR FLANGE OF AD PANEL WHERE THE SUPPORTS WILL GO.
3. PLACE SQUARE NUTS INSIDE CHANNEL AND THREAD BOLTS THROUGH.
4. LIFT AD PANEL INTO POSITION WITH BOLTS STILL IN PLACE.
5. PLACE MOUNTING ANGLES OVER EACH PAIR OF BOLTS AND SECURE WITH LOCK WASHERS AND HEX NUTS.
6. WHEN PANEL IS ADJUSTED TO FINAL DESIRED POSITION, TIGHTEN HEX NUTS FIRMLY.

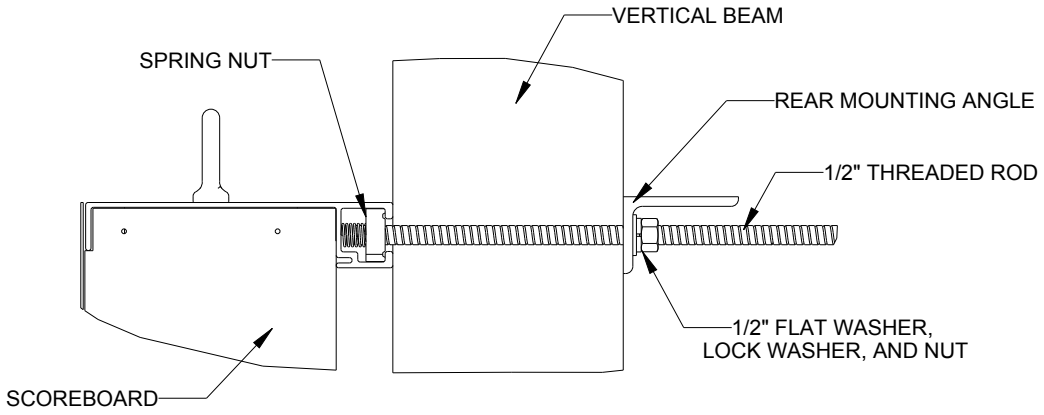
MOUNTING INSTRUCTIONS: FOR AD PANELS WITH BACKSHEETS.

1. USE THE MOUNTING CHANNEL TO DETERMINE WHICH HOLE COMBINATION SHOULD BE USED. BE SURE TO KEEP THE BOLTS AS CLOSE TO THE BEAM AS POSSIBLE.
2. USING THE MOUNTING CHANNEL AS A TEMPLATE, DRILL 9/16" HOLES IN THE UPPER AND LOWER REAR FLANGE OF AD PANEL WHERE THE SUPPORTS WILL GO.
3. REMOVE BACKSHEETS IN AREAS ABOVE AND BELOW HOLES DRILLED IN STEP 2.
4. PLACE SQUARE NUTS INSIDE CHANNEL AND THREAD BOLTS THROUGH.
5. REPLACE BACKSHEETS REMOVED IN STEP 3.
6. LIFT AD PANEL INTO POSITION WITH BOLTS STILL IN PLACE.
7. PLACE MOUNTING ANGLES OVER EACH PAIR OF BOLTS AND SECURE WITH LOCK WASHERS AND HEX NUTS.
8. WHEN PANEL IS ADJUSTED TO FINAL DESIRED POSITION, TIGHTEN HEX NUTS FIRMLY.

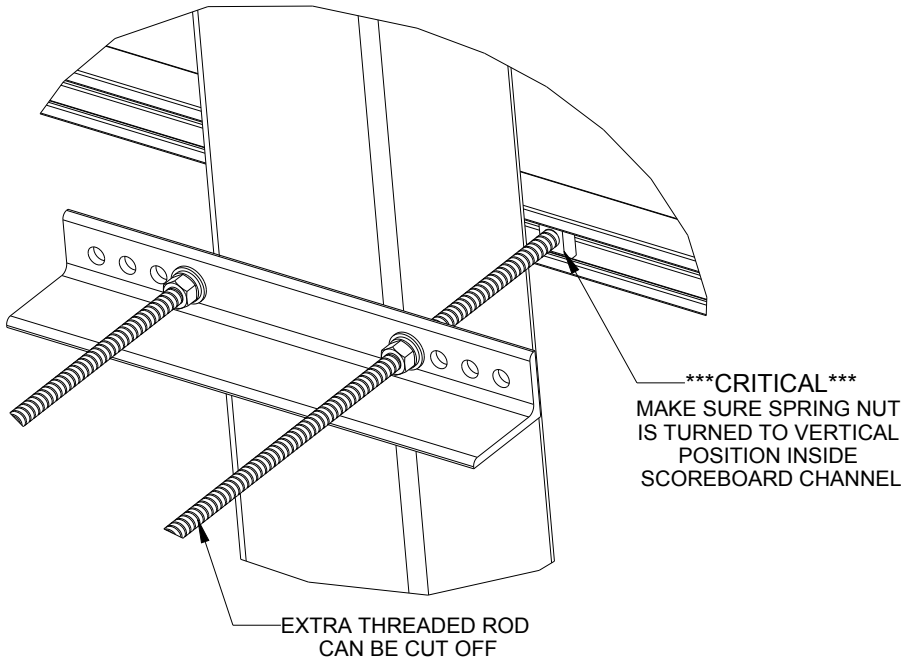
REV	DATE:		BY:	
05	13 JAN 20	PER CN-95848, REMOVED 1" SQUARE TUBE OPTION	CDO	
04	26 OCT 11	ADDED NOTE FOR USING MOUNTING HARDWARE AT AD PANELS SPLICES	MBC	
03	12 APR 10	ADDED 1" TUBE SPACER	KDD	
02	13 AUG 97	INCLUDED INSTRUCTIONS FOR AD PANELS WITH BACKSHEETS	JAA	
01	26 MAY 93	ADDED DESCRIPTION TEXT TO PARTS.	MGG	

THIRD ANGLE PROJECTION

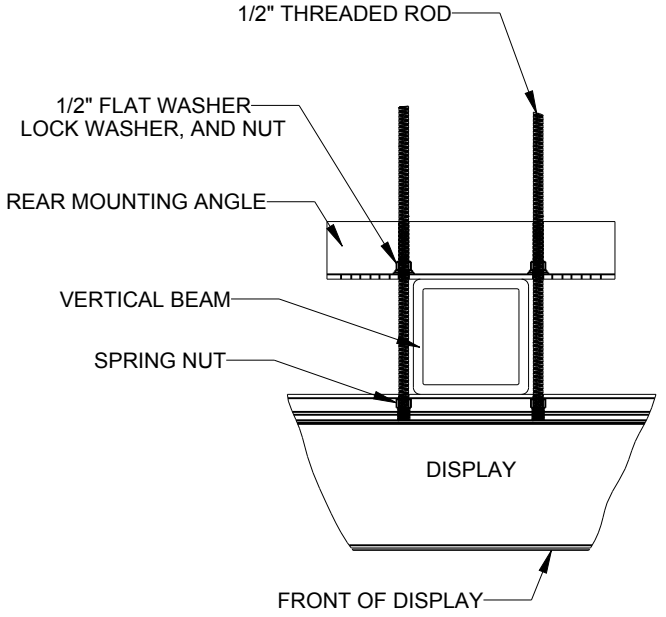
PROJECT:	OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE:	AD PANEL MOUNTING			
DATE: 09 JUL 92	DIM UNITS: INCHES [MILLIMETERS]		SHEET	REV
SCALE: NONE	DO NOT SCALE DRAWING			05
DESIGN:	JOB NO.	FUNC - TYPE - SIZE		52187
DRAWN: MGUNDERSON	P1091	R - 10 - B		



SIDE VIEW



REAR ISOMETRIC VIEW



TOP VIEW
SCALE 1/10

CRITICAL
DO NOT USE ANY LUBRICANT
ON ANY MOUNTING HARDWARE
OR WARRANTY WILL BE VOIDED

STRUCTURAL NOTES:
- BOLT TORQUE: 30 FT-LB

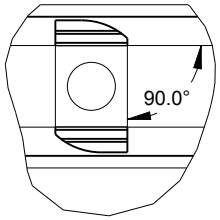
NOTES:
- THREADED RODS RUN ALONG BOTH SIDES OF BEAM
- RODS DO NOT PASS THROUGH THE FLANGES OF THE BEAM
- NO DRILLING NECESSARY
- MAKE SURE SPRING NUT IS PERPENDICULAR TO CHANNEL OPENING ON SCOREBOARD

REV	DATE:		BY:	
04	22 DEC 15	PER EC-22871; ADDED LUBRICANT WARNING	PJS 18704	
03	03 JULY 13	ADDED STRUCTURAL NOTE	TTF	
02	20 SEP 12	PER EC-7114; REMOVED CHAMFER FROM 0M-133259	LMG	
01	06 OCT 11	REPLACED VERTICAL I-BEAM WITH 6" X 6" SQUARE TUBE	JAVA	

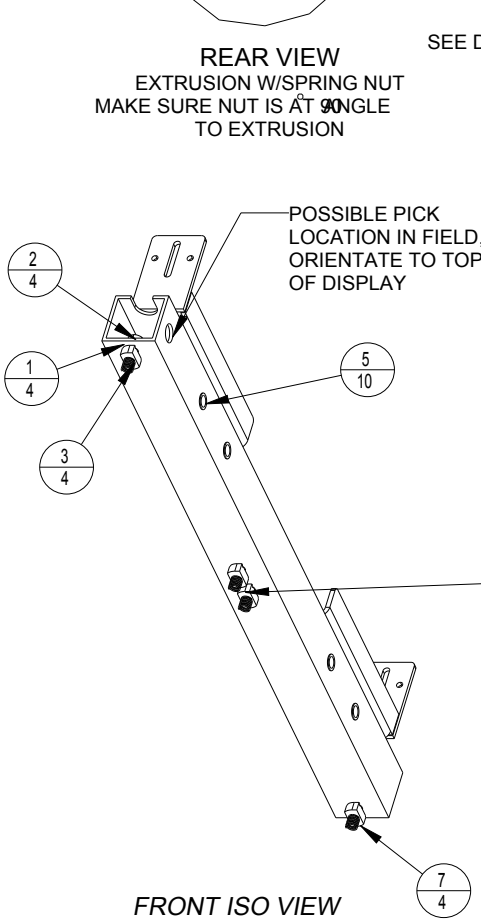
THIRD ANGLE PROJECTION

PROJECT:	OUTDOOR SCOREBOARDS			
TITLE:	P1647; POLE MOUNTING OPTIONS			
DATE: 22-DEC-15	DIM UNITS: INCHES [MILLIMETERS]		SHEET 1 OF 1	REV 04
SCALE: 1/5	DO NOT SCALE DRAWING			
DESIGN: DOPPELT	JOB NO. P1647	FUNC - TYPE - SIZE E - 10 - A	1048184	
DRAWN: DOPPELT				

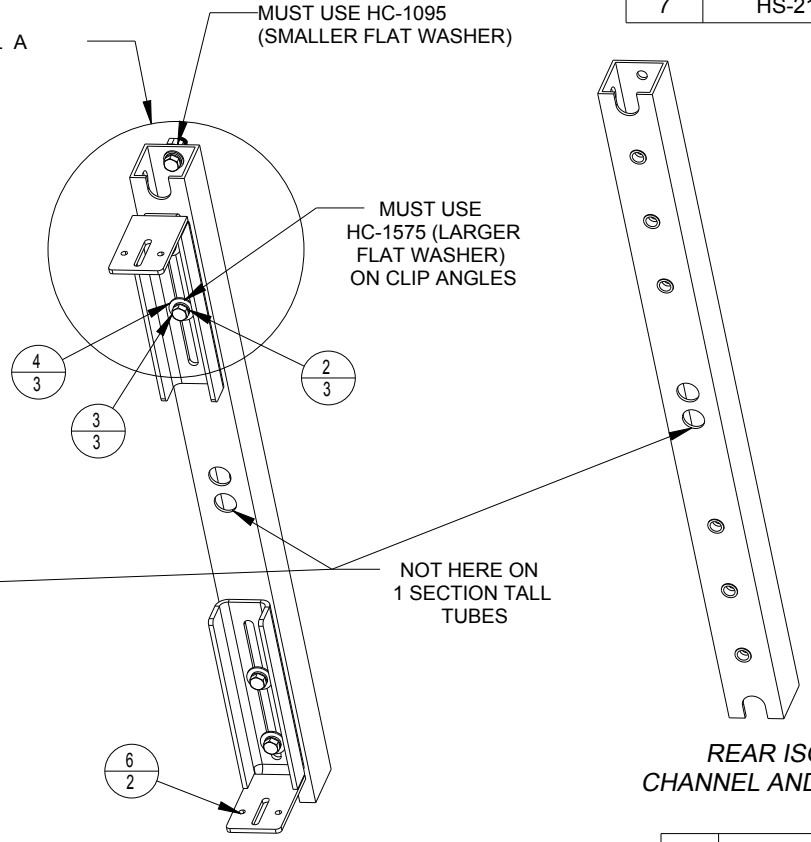
INDEX	NAME	QTY	DESCRIPTION
1	HC-1095	4	WASHER; 1/2 FLAT, ZN PLTD, SAE
2	HC-1101	8	WASHER; 1/2 SPLIT LOCK, ZN PLTD, MEDIUM
3	HC-1152	8	Bolt; 1/2-13x1 1/2 Hex Head, Plated, Grade 5 Fully Threaded
4	HC-1575	4	WASHER, 1/2" USS FLAT ZINC PLATED
5	HS-1459	10	NUT INSERT; 1/2 - 13 OPEN END
6	HS-2098	2	CLIP ANGLE; DVX PLATFORM, 139.7MM X 279.4MM
7	HS-2194	4	SPRINGâ”¬Ã¡NUT;â”¬Ã¡1/2"-13 THREAD; ZINC PLATED



REAR VIEW
EXTRUSION W/SPRING NUT
MAKE SURE NUT IS AT 90° ANGLE
TO EXTRUSION

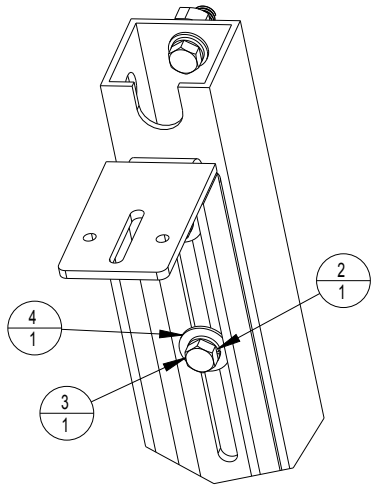


FRONT ISO VIEW



REAR ISO VIEW

REAR ISO VIEW
CHANNEL AND NUTSERTS



DETAIL A
SCALE 1/5

NOTES:
INSERT HS-1459 NUTSERTS @10 INTO TUBE
ATTACH HARDWARE AS SHOWN

MIDDLE CONNECTIONS INTO SCOREBOARDS
ONLY USED ON 2 SECTION TALL SCOREBOARDS

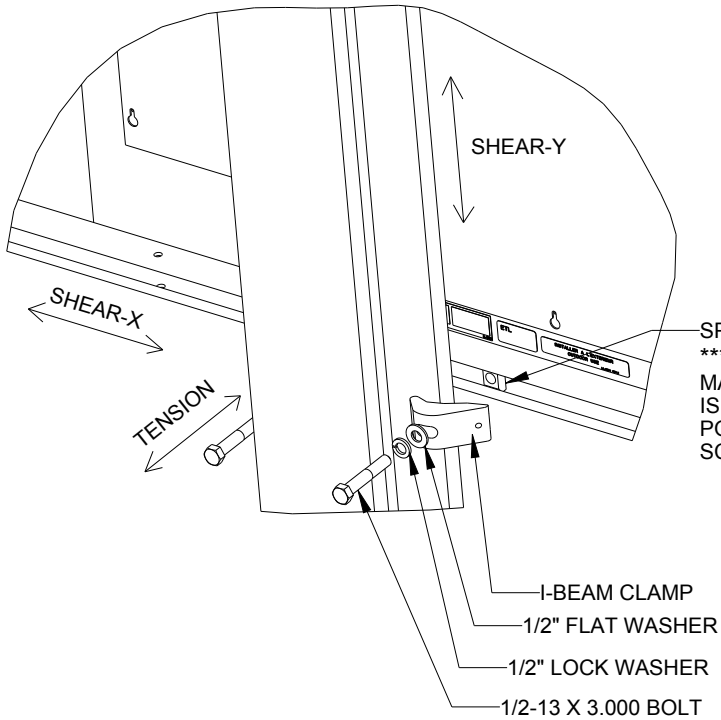
02	8 APR 16	PER EC-18150, ADDED DETAIL A	MTR
01	28 OCT 11	ADDED NOTES	DRO
REV	DATE:		BY:

DAKTRONICS

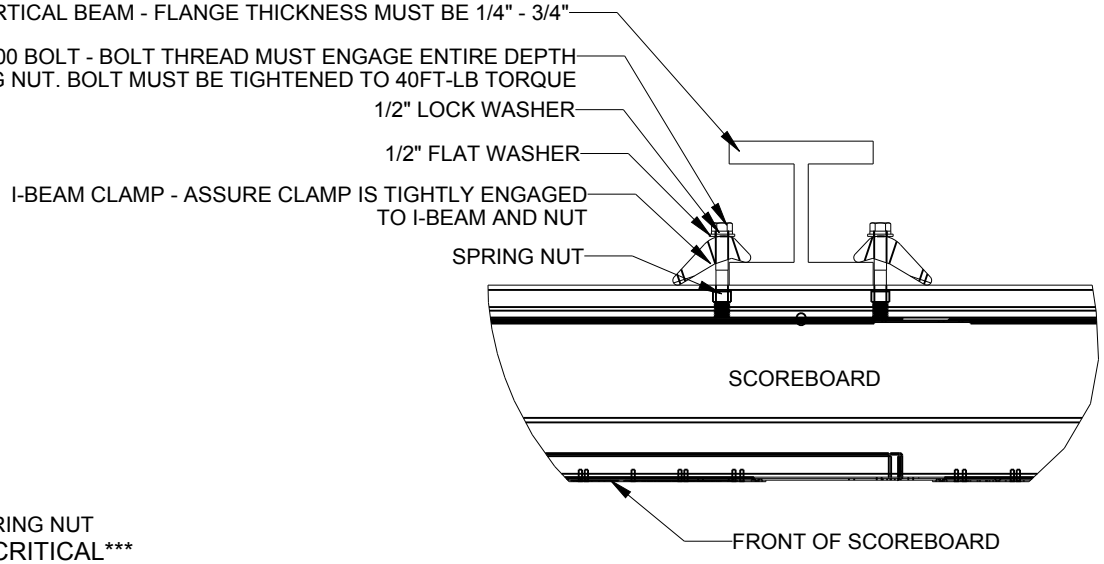
THIRD ANGLE PROJECTION

PROJECT:	OUTDOOR SCOREBOARDS				
TITLE:	P1647 MTG TUBE ASSEMBLY DETAIL				
DATE:	08-APR-16	DIM UNITS:	INCHES [MILLIMETERS]	SHEET	REV
SCALE:	1/10		DO NOT SCALE DRAWING	1 OF 1	02
DESIGN:	DOPPELT	JOB NO.	FUNC - TYPE - SIZE	1048268	
DRAWN:	DOPPELT	P1647	E - 07 - A		

Part # - DWG-01048268 Version - 02.1 Description - N A P1647 MTG TUBE ASSEMBLY DETAIL Lifecycle State - Full Production Last Modified By - mrufer Last Modified - 2016-04-08



EXPLODED REAR ISOMETRIC VIEW



TOP VIEW

CRITICAL
DO NOT USE ANY LUBRICANT
ON ANY MOUNTING HARDWARE
OR WARRANTY WILL BE VOIDED

STANDARD MOUNTING METHOD

MOUNTING INSTRUCTIONS:
1. PLACE SPRING NUTS INTO SCOREBOARD CHANNEL IN APPROXIMATE LOCATION OF VERTICAL BEAMS
2. LIFT SCOREBOARD INTO POSITION
3. MAKE SURE THE 1/2-13 BOLTS ARE AS CLOSE TO THE I-BEAM FLANGES AS POSSIBLE
4. WHEN SCOREBOARD IS ADJUSTED TO FINAL DESIRED POSITION, TIGHTEN BOLTS FIRMLY
5. IF FLANGE THICKNESS IS MORE THAN 3/4" THICK LONGER BOLTS WILL BE REQUIRED AT THE CUSTOMER'S EXPENSE.

STRUCTURAL NOTES

ALLOWABLE CAPACITY PER EACH CLAMP:
SHEAR = 160 LBS
TENSION = 2300 LBS

SHEAR AND TENSION LOAD
DIRECTION ARE AS INDICATED ON
REAR ISOMETRIC VIEW

REV	DATE:		BY:	
05	22 DEC 15	PER EC-22871; ADDED LUBRICANT NOTE	PJS 18704	
04	06 JAN 14	ADDED ALLOWABLE TENSION AND SHEAR CAPACITY DETAILS	JAVA	
03	23 OCT 13	PER EC-12382; CHANGED BOLT TORQUE FROM 30 FT-LB TO 40 FT-LB	NJM	
02	07 MAR 12	ADDED STANDARD MOUNTING METHODS NOTES	KDD	
01	21 FEB 12	CHANGED ROCKER TO I-BEAM	KDD	

THIRD ANGLE PROJECTION

PROJECT:	OUTDOOR SCOREBOARD			
TITLE:	P1647; I-BEAM CLAMP MOUNTING			
DATE: 22-DEC-15	DIM UNITS: INCHES [MILLIMETERS]		SHEET 1 OF 1	REV 05
SCALE: 1/8	DO NOT SCALE DRAWING			
DESIGN: MCARSRU	JOB NO. P1647	FUNC - TYPE - SIZE E - 07 - A	1052565	
DRAWN: MCARSRU				

INSTRUCTIONS

–MAKE SURE INTERCONNECT CABLES FROM BOTH BOTTOM AND TOP SECTION ARE NOT EXPOSED.

–INSTALL 2 INCH CONDUIT FROM START LOCATION TO END LOCATION.

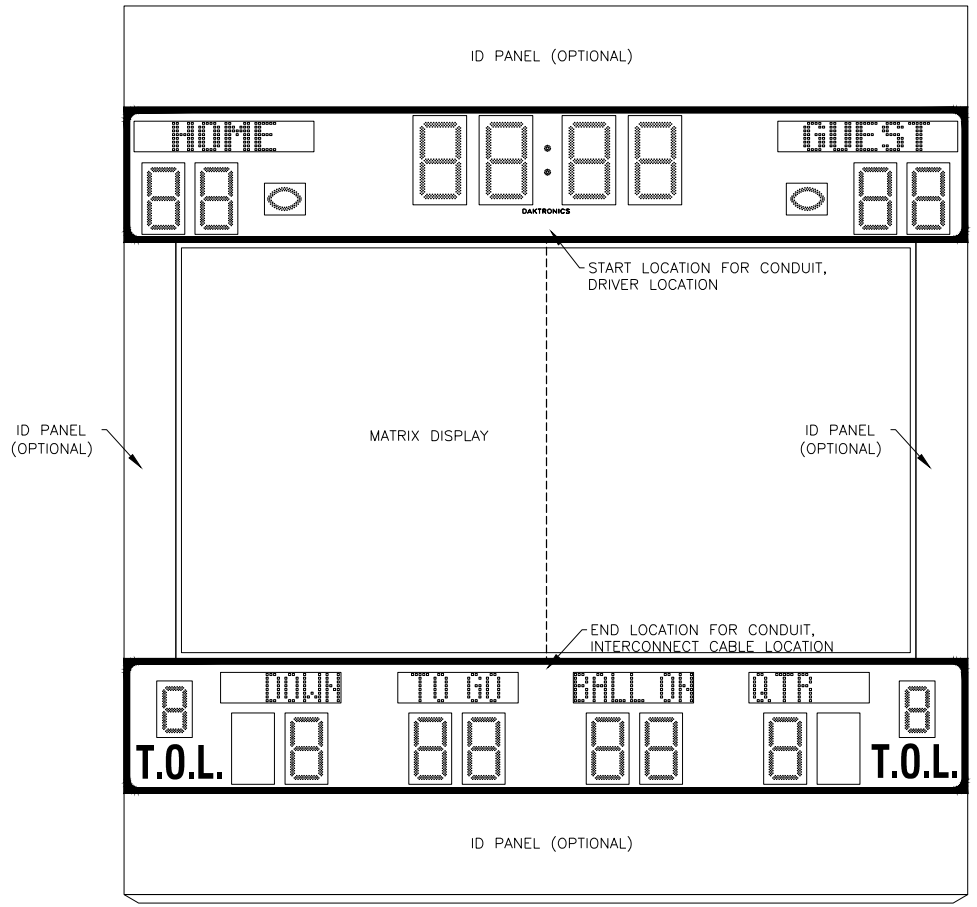
–FEED NEW 36FT PWR/SIG HARNESS FROM START LOCATION OF NEW CONDUIT TO END LOCATION. NOTE THAT FEMALE JACK END (J43) MUST STAY AT TOP.

–CONNECT FEMALE END TO DRIVER A1 AT P43. DRIVER ACCESS BEHIND HOME SCORE DIGIT.

–CONNECT MALE END AT CONDUIT END LOCATION TO DRIVER AT J43 END. DRIVER ACCESS BEHIND DOWN DIGIT.

–SEAL ANY OPEN AND UNUSED INTERCONNECT HOLES IF THEY EXIST.

–TEST BOARD WITH NORMAL OPERATION.

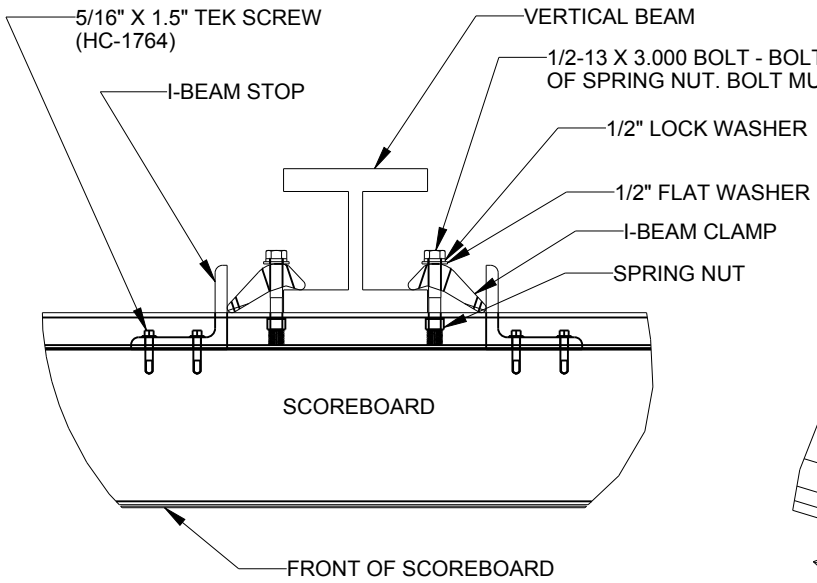


REV	DATE:	CHG TITLE	BY:
02	15 FEB 12		KZB
REV	DATE:	MADE DWG MORE GENERIC FOR OTHER ORDERS	BY:
01	15 FEB 12		KZB

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

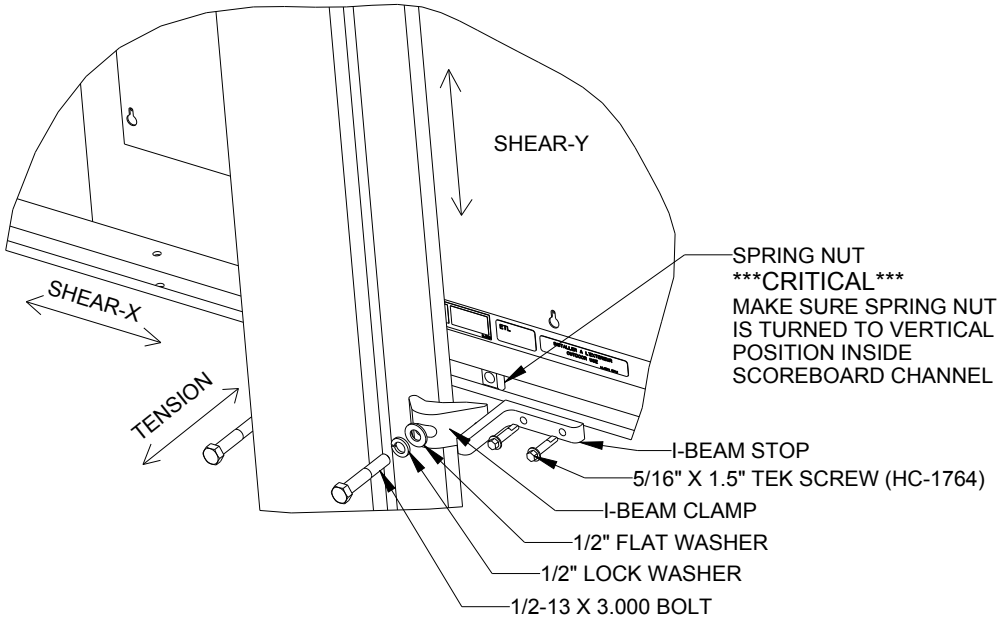
PROJ:
TITLE: INSTALLATION DRAWING; SPLIT 2 SEC SCOREBOARD
DESIGN: KBIERBA | DRAWN: KBIERBA | DATE: 06 JUL 11
SCALE: NONE

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
	02	P1192	F-01-B	1060613



TOP VIEW

CRITICAL
DO NOT USE ANY LUBRICANT
ON ANY MOUNTING HARDWARE
OR WARRANTY WILL BE VOIDED



EXPLODED REAR ISOMETRIC VIEW

STANDARD MOUNTING METHOD

MOUNTING INSTRUCTIONS:
1. PLACE SPRING NUTS INTO SCOREBOARD CHANNEL IN APPROXIMATE LOCATION OF VERTICAL BEAMS
2. LIFT SCOREBOARD INTO POSITION
3. MAKE SURE THE 1/2-13 BOLTS ARE AS CLOSE TO THE I-BEAM FLANGES AS POSSIBLE
4. WHEN SCOREBOARD IS ADJUSTED TO FINAL DESIRED POSITION, TIGHTEN BOLTS FIRMLY
5. ATTACH I-BEAM STOPS TIGHT AGAINST I-BEAM CLAMPS USING 5/16" X 1.5" TEK SCREWS

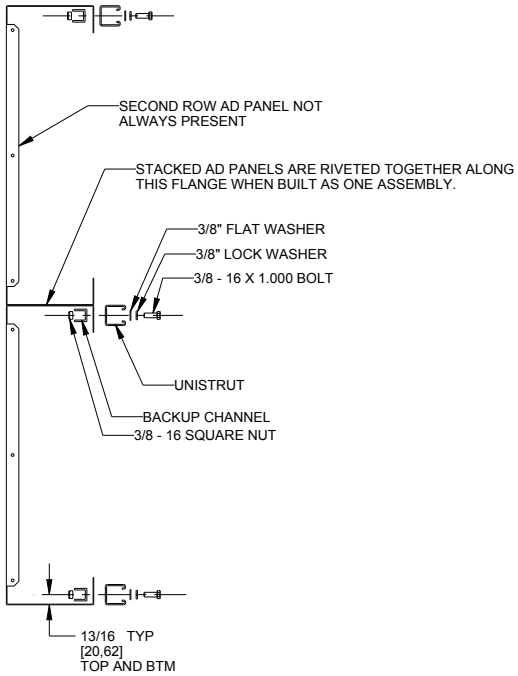
ALLOWABLE CAPACITY PER EACH CLAMP:
SHEAR = 160 LBS
TENSION = 2300 LBS

SHEAR AND TENSION LOAD
DIRECTION ARE AS INDICATED ON
REAR ISOMETRIC VIEW

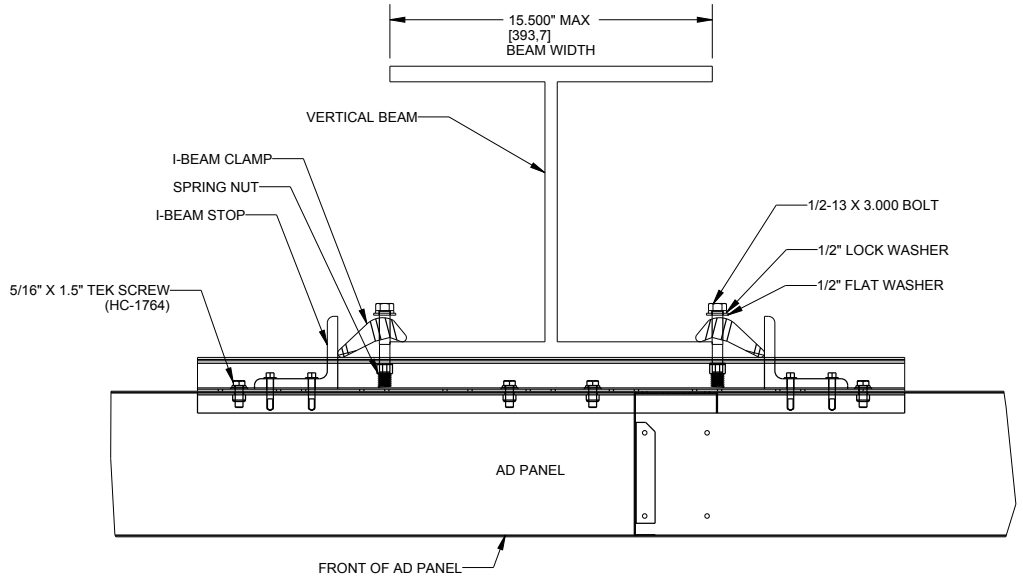
REV	DATE:		BY:	
03	22 DEC 15	PER EC-22871; ADDED LUBRICANT NOTE	PJS 18704	
02	06 JAN 14	ADDED SPECIFIC BOLT TORQUE FOR CLAMPS ADDED ALLOWABLE TENSION AND SHEAR CAPACILTY DETAILS	JAVA	
01	23 FEB 12	CHANGED ROCKERS TO I-BEAM	KDD	

THIRD ANGLE PROJECTION

PROJECT:	OUTDOOR SCOREBOARD				
TITLE:	P1647; DSA I-BEAM CLAMP MOUNTING				
DATE:	22-DEC-15	DIM UNITS:	INCHES [MILLIMETERS]	SHEET	REV
SCALE:	1/8		DO NOT SCALE DRAWING	1 OF 1	03
DESIGN:	ZRYKHUS	JOB NO.	FUNC - TYPE - SIZE	1064893	
DRAWN:	ZRYKHUS	P1647	E - 07 - A		



EXPLODED SIDE VIEW
UNISTRUT ATTACHMENT



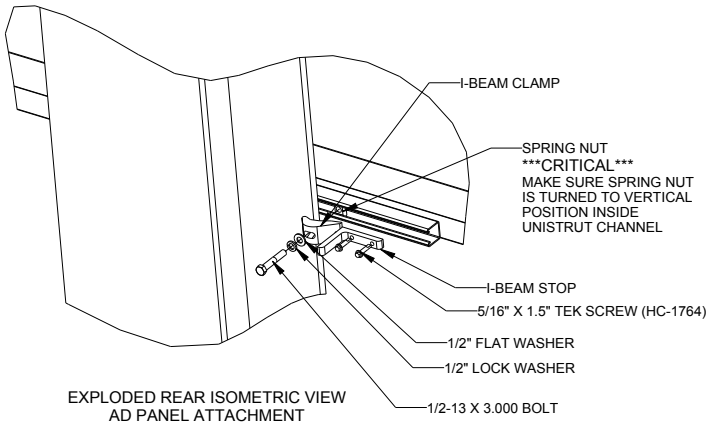
TOP VIEW
AD PANEL ATTACHMENT
SCALE 1/6

STRUCTURAL NOTES:

ALLOWABLE LOADS PER COLUMN CONNECTION

MAX ALLOWABLE WIND LOAD: 2,400 LBS
MAX ALLOWABLE PANEL WEIGHT: 158 LBS
COEFFICIENT OF FRICTION: 0.03
BOLT TORQUE: 50 FT-LB
MIN-MAX I-BEAM FLANGE THICKNESS: 0.25"-0.75"

CRITICAL
DO NOT USE ANY LUBRICANT
ON ANY MOUNTING HARDWARE
OR WARRANTY WILL BE VOIDED



EXPLODED REAR ISOMETRIC VIEW
AD PANEL ATTACHMENT

MOUNTING INSTRUCTIONS:
1. USING THE BACKUP CHANNEL AS A TEMPLATE, DRILL Ø 7/16" HOLES IN THE UPPER AND LOWER REAR FLANGE OF THE AD PANEL WHERE THE VERTICAL BEAMS WILL BE LOCATED.
2. IF AD PANEL HAS BACKSHEETS, REMOVE BACKSHEETS NECESSARY AT THIS TIME TO ACCESS HARDWARE FOR UNISTRUT ATTACHMENT
3. ATTACH UNISTRUT TO AD PANEL THROUGH HOLES DRILLED IN STEP 1 AS SHOWN IN UNISTRUT ATTACHMENT SIDE VIEW
4. REPLACE BACKSHEETS REMOVED IN STEP 2
5. PLACE SPRING NUTS INTO UNISTRUT IN APPROXIMATE LOCATION OF VERTICAL BEAMS
7. LIFT AD PANEL INTO POSITION
8. ATTACH I-BEAM CLAMPS WITH 1/2" HARDWARE AS SHOWN IN TOP AND REAR ISOMETRIC VIEW AD PANEL ATTACHMENT
9. MAKE SURE THE 1/2-13 BOLTS ARE AS CLOSE TO THE I-BEAM FLANGES AS POSSIBLE
10. WHEN AD PANEL IS ADJUSTED TO FINAL DESIRED POSITION, TIGHTEN BOLTS FIRMLY
11. FASTEN I-BEAM STOPS TIGHT AGAINST I-BEAM CLAMPS WITH 5/16" X 1.5" TEK SCREWS

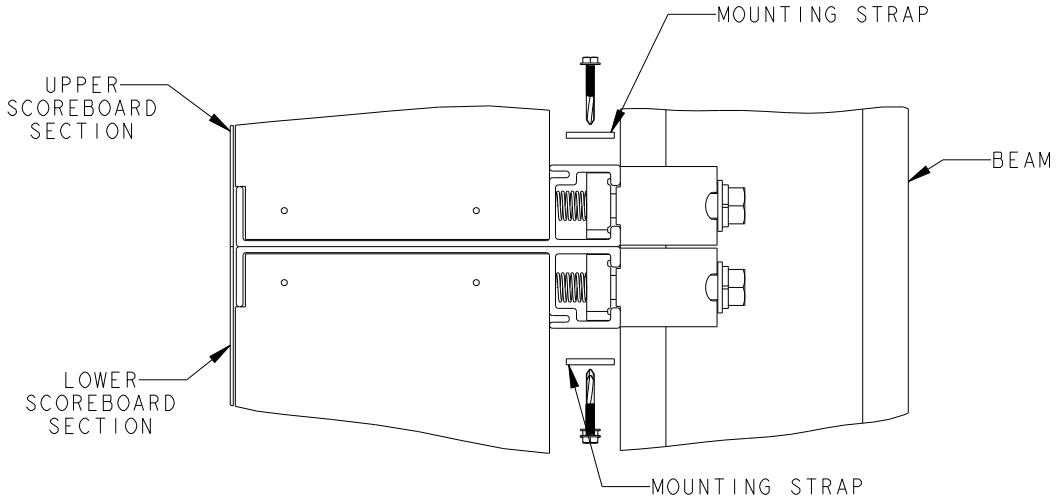
REV	DATE:		BY:
03	22 DEC 15	PER EC-22871; ADDED LUBRICANT WARNING	PJS 18704
02	18 APR 12	INCREASED BEAM SIZE TO THE 15" MAX ADDED STACKED AD PANEL INSTRUCTIONS ADDED STRUCTURAL NOTES	JLR
01	23 FEB 12	CHANGED ROCKER CLAMP/STOP TO I-BEAM CLAMP/STOP	KDD

THIRD ANGLE PROJECTION

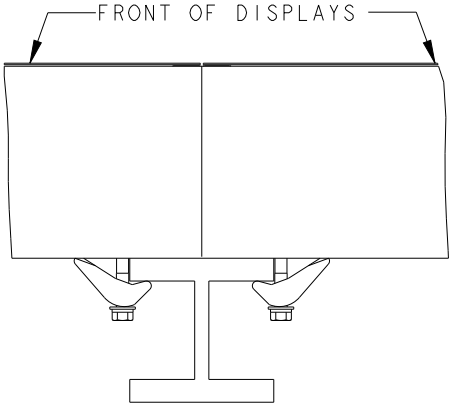
DAKTRONICS

PROJECT:	OUTDOOR SCOREBOARDS			
TITLE:	AD PANEL DSA I-BEAM CLAMP MOUNTING			
DATE:	22-DEC-15	DIM UNITS: INCHES [MILLIMETERS]	SHEET	REV
SCALE:	1/10	DO NOT SCALE DRAWING	1 OF 1	03
DESIGN:	ZRYKHUS	JOB NO. P1647 / FUNC - TYPE - SIZE: E - 07 - B	1064894	
DRAWN:	ZRYKHUS			

Part # - DWG-01064894 | Version - 03.1 | Description - N B AD PANEL DSA I-BEAM CLAMP MOUNTING | Lifecycle State - Full Production | Last Modified By - pschroe | Last Modified - 2016-10-27



SIDE VIEW
SCALE 1/4



TOP VIEW
SCALE 1/8

STRAP INSTALLATION PROCEDURE FOR 3 POLE APPLICATION

AFTER CLAMPING ALL FOUR SECTIONS OF THE SCOREBOARD TO MOUNTING BEAMS, IT IS NECESSARY TO ATTACH THE TWO BOTTOM SECTIONS TO EACH OTHER AND THE TWO TOP SECTIONS TO EACH OTHER.

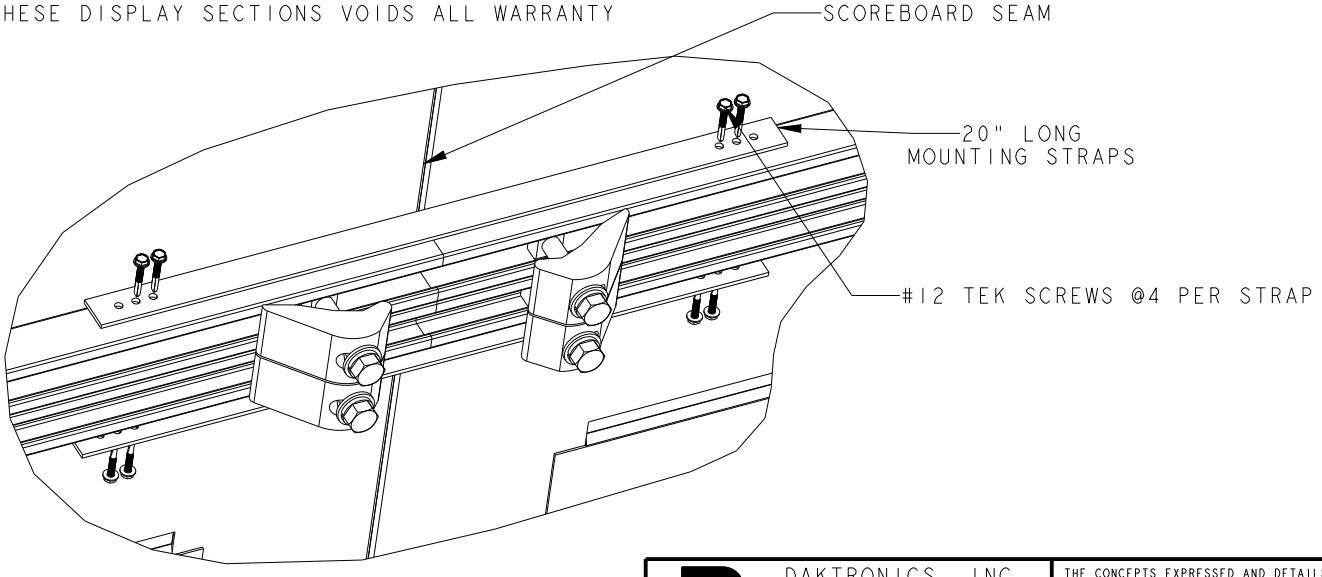
STRAPS ARE REQUIRED AT SPLICE LOCATION FOR BOTH POLE MOUNTING AND I-BEAM MOUNTING STYLES

THIS IS ACHIEVED USING FOUR MOUNTING STRAPS (1/8" X 1" X 20" LONG) AND #12 HEX HEADED SCREWS.

POSITION THE MOUNTING STRAPS AS SHOWN ON THIS DRAWING. ATTACH FOUR SCREWS TO ATTACH EACH STRAP. 2 SCREWS ON EACH SIDE OF THE SPLICE.

ATTACH ONE STRAP TO THE TOP & BOTTOM OF EACH LEFT & RIGHT SECTION.

FAILURE TO ATTACH THE MOUNTING STRAPS TO THESE DISPLAY SECTIONS VOIDS ALL WARRANTY



ISOMETRIC VIEW
SCALE 1/5
SHOWN WITH OUT I-BEAM

DAKTRONICS, INC.
BROOKINGS, SD 57006

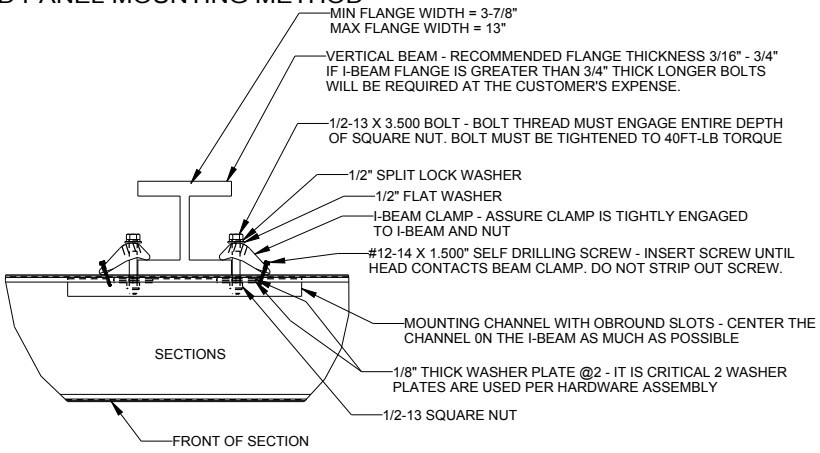
DO NOT SCALE DRAWING

PROJ: OUTDOOR SCOREBOARDS				
TITLE: MTG STRAPS, 4 SEC SCBD ON 3 POLES				
DESIGN: USER NAME	DRAWN: DOPPELT			DATE: 05-OCT-12
SCALE: AS SHOWN				

REV	DATE:		BY:

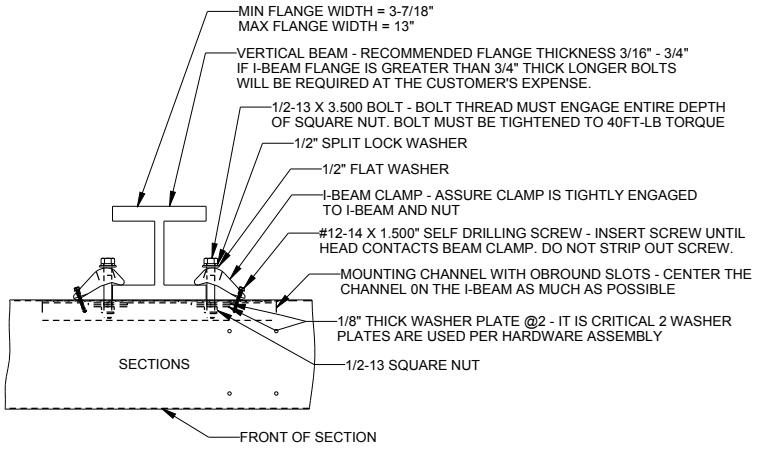
SHEET:	REV	JOB NO:	FUNC-TYPE-SIZE	
1 OF 1	00	P 1647	E-07-A	1115341

STANDARD SHEETMETAL SCOREBOARD/BACKLIT AD PANEL MOUNTING METHOD

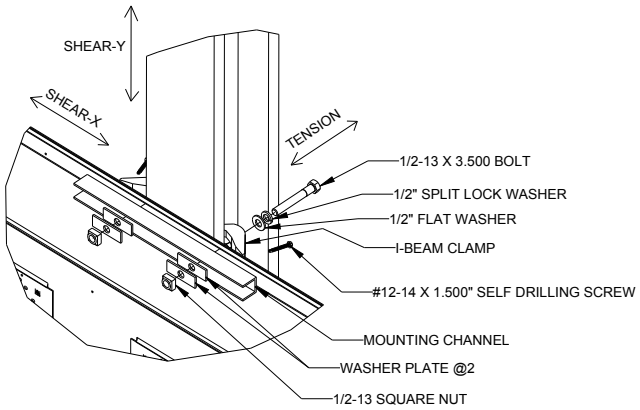


TOP VIEW

STANDARD NON-BACKLIT AD PANEL MOUNTING METHOD



TOP VIEW



FRONT ROTATED VIEW

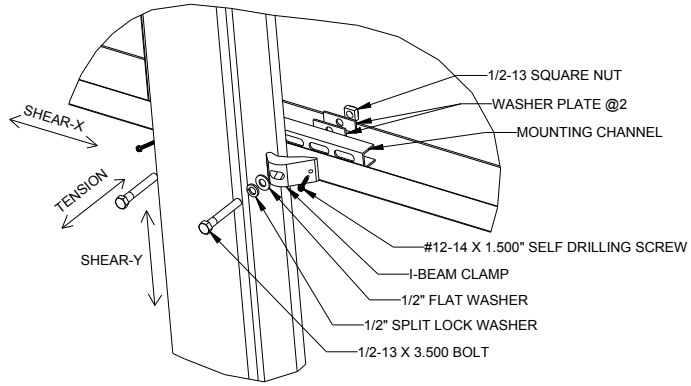
QUALIFIED FOR SECTIONS UP TO 5' IN HEIGHT USING RECOMMENDED STRUCTURE

ALLOWABLE CAPACITY PER EACH CLAMP:
SHEAR = 160 LBS
TENSION = 1376 LBS

SHEAR AND TENSION LOAD
DIRECTION ARE AS INDICATED ON
ROTATED VIEWS

MOUNTING INSTRUCTIONS:

1. LIFT THE FIRST SECTION OF THE DISPLAY INTO POSITION AGAINST I-BEAMS.
   NOTE: IF THE DISPLAY IS MADE UP OF MULTIPLE SECTIONS ALWAYS INSTALL THE BOTTOM SECTION FIRST AND WORK UP.
2. STARTING ON THE TOP OF THE SECTION BEING INSTALLED MARK AND DRILL 9/16" HOLES IN THE CENTER OF THE TOP FLANGE OF THE SECTION. MAKE SURE THE HOLES ARE POSITIONED AS CLOSE TO THE I-BEAM FLANGES AS POSSIBLE.
3. INSTALL ALL THE HARDWARE SHOWN PROVIDED AND TIGHTEN THE SECTION IN THE DESIRED LOCATION.
4. ONCE THE TOP OF THE SECTION IS SECURE MOVE TO THE BOTTOM OF THE SECTION AND REPEAT THE STEPS ABOVE.
5. IF THE DISPLAY IS MADE OF MULTIPLE SECTIONS REPEAT THE ENTIRE PROCEDURE ABOVE.
6. ENSURE ALL 1/2" HARDWARE IS TORQUED TO THE SPECIFIED AMOUNT.

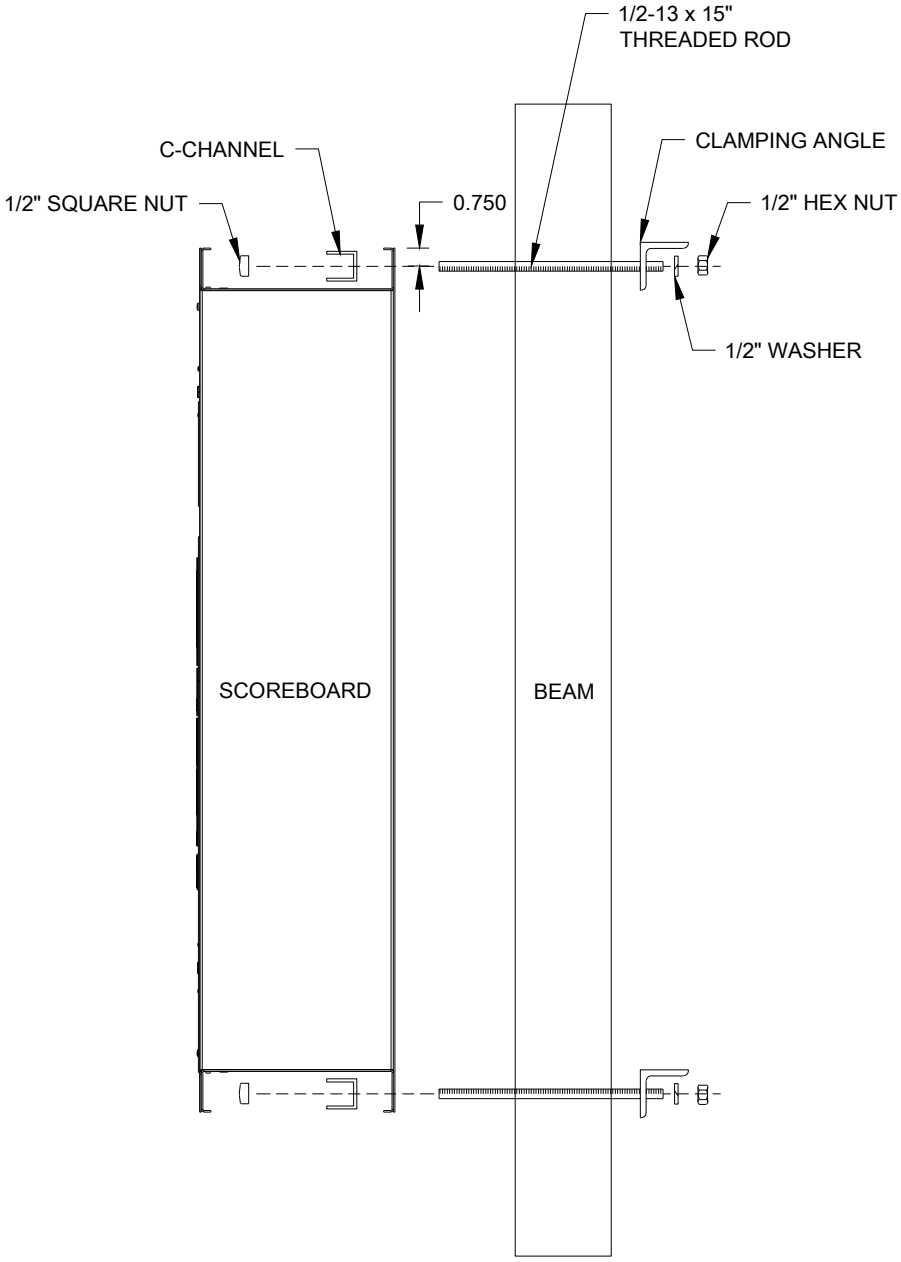


REAR ROTATED VIEW

REV	DATE:		BY:
02	17 JUN 15	CHANGED TENSION CAPACITY TO 1376 LBS ADDED MININUM AND MAXIMUM FLANGE WIDTHS	AMP
01	8 JAN 14	ADDED ALLOWABLE TENSION AND SHEAR CAPACITY DETAILS ADDED NON-BKLT AD PANEL MOUNTING DETAILS CHANGED DWG TO B SIZED.	JAVA

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

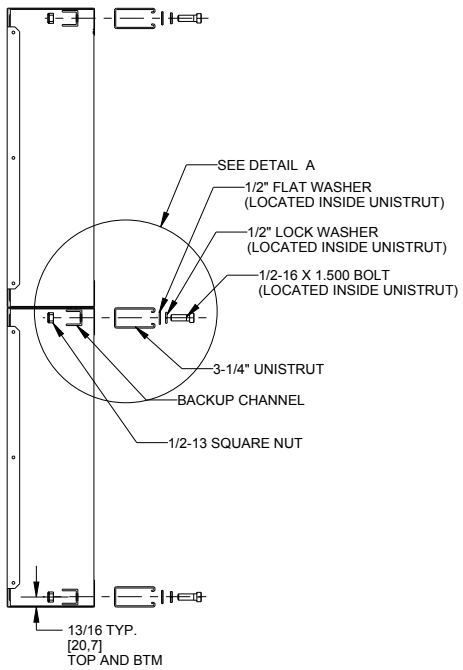
PROJ: OUTDOOR SCOREBOARD					
TITLE: I-BEAM CLAMP MOUNTING, SHEET METAL ATTACHMENT					
DESIGN: KSCHNABEL		DRAWN: KSCHNABEL		DATE: 17-JUN-15	
SCALE: 1/8					
SHEET:	REV	JOB NO:	FUNC-TYPE-SIZE		1129110
1 OF 1	02	P 1753	E – 10 – B		



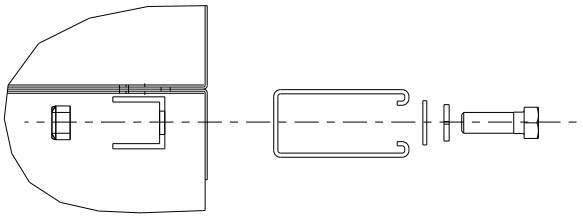
MOUNTING INSTRUCTIONS:

1. USE THE MOUNTING CHANNEL TO DETERMINE WHICH HOLE COMBINATION SHOULD BE USED. BE SURE TO KEEP THE BOLT AS CLOSE TO THE BEAM AS POSSIBLE.
2. USING THE MOUNTING CHANNEL AS A TEMPLATE, DRILL 9/16" HOLES IN THE UPPER AND LOWER REAR FLANGE OF SCOREBOARDS WHERE THE SUPPORTS WILL GO.
3. PLACE SQUARE NUTS INSIDE CHANNEL AND THREAD BOLTS THROUGH.
4. LIFT SCOREBOARD INTO POSITION WITH BOLTS STILL IN PLACE.
5. PLACE MOUNTING ANGLES OVER EACH PAIR OF BOLTS AND SECURE WITH LOCK WASHERS AND HEX NUTS.
6. WHEN SCOREBOARD IS ADJUSTED TO FINAL DESIRED POSITION, TIGHTEN HEX NUTS FIRMLY.

DAKTRONICS, INC. BROOKINGS, SD 57006 DO NOT SCALE DRAWING				
PROJ: OUTDOOR SHEET METAL SCOREBOARDS				
TITLE: SCOREBOARD MOUNTING				
DESIGN: KDRAGT		DRAWN: KDRAGT		DATE: 14 MAR 13
SCALE: 1=8				
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	1130246
	00	P1753	E-10-A	

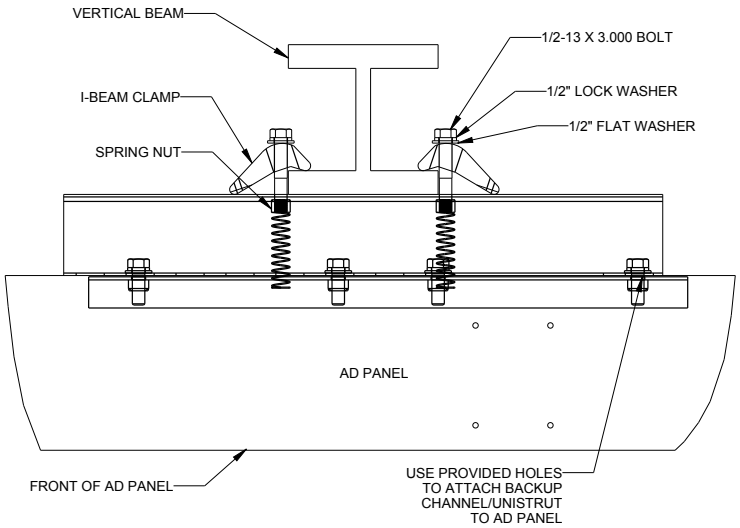


EXPLODED SIDE VIEW
UNISTRUT ATTACHMENT
SCALE 1/10

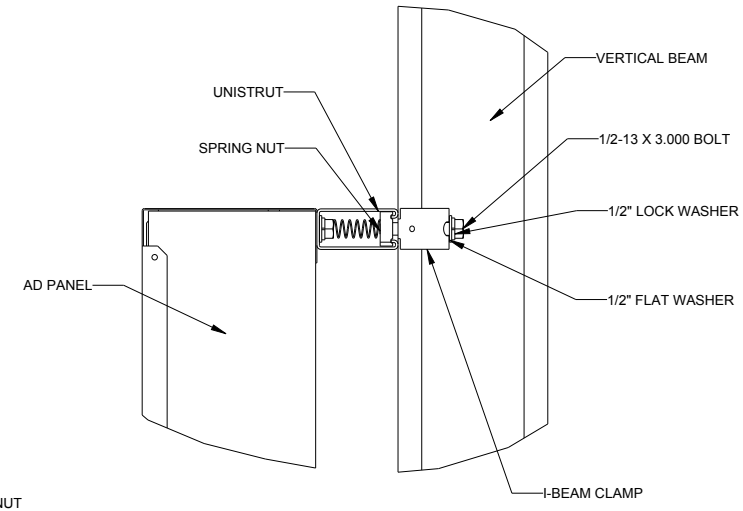


DETAIL A
SCALE 1/3

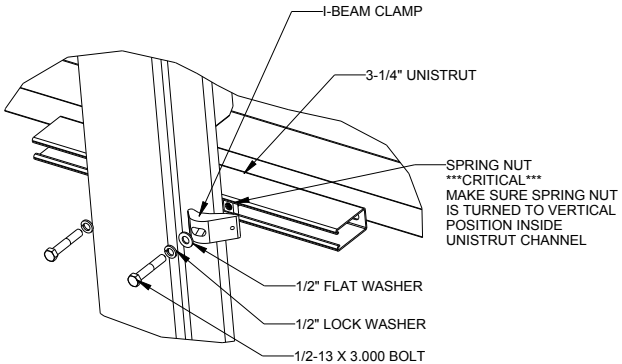
RECOMMENDED METHOD OF INSTALLATION:
- INSTALL 1 1/2" BOLT, 1/2" LOCK WASHER, 1/2" FLAT WASHER USING SHALLOW SOCKET WITH EXTENSION.
- ENTER FROM SIDE OF UNISTRUT SECURING INSIDE BOLTS FIRST AND MOVING OUTWARD



TOP VIEW
AD PANEL ATTACHMENT
SCALE 1/5



SIDE VIEW
AD PANEL ATTACHMENT
SCALE 1/5



EXPLODED REAR ROTATED VIEW
AD PANEL ATTACHMENT
SCALE 1/8

STRUCTURAL NOTES:

ALLOWABLE LOADS PER COLUMN CONNECTION

MAX ALLOWABLE WIND LOAD: 2,400 LBS
MAX ALLOWABLE PANEL WEIGHT: 158 LBS
COEFFICIENT OF FRICTION: 0.03
BOLT TORQUE: 50 FT-LB
MIN-MAX I-BEAM FLANGE THICKNESS: 0.25"-0.75"

MOUNTING INSTRUCTIONS:
1. USING THE BACKUP CHANNEL AS A TEMPLATE, DRILL ∅ 9/16" HOLES IN THE UPPER AND LOWER REAR FLANGE OF THE AD PANEL WHERE THE VERTICAL BEAMS WILL BE LOCATED.
2. IF AD PANEL HAS BACKSHEETS, REMOVE BACKSHEETS NECESSARY AT THIS TIME TO ACCESS HARDWARE FOR UNISTRUT ATTACHMENT
3. ATTACH UNISTRUT TO AD PANEL THROUGH HOLES DRILLED IN STEP 1 AS SHOWN IN UNISTRUT ATTACHMENT SIDE VIEW
4. REPLACE BACKSHEETS REMOVED IN STEP 2
5. PLACE SPRING NUTS INTO UNISTRUT IN APPROXIMATE LOCATION OF VERTICAL BEAMS
7. LIFT AD PANEL INTO POSITION
8. ATTACH I-BEAM CLAMPS WITH 1/2" HARDWARE AS SHOWN IN TOP AND REAR ISOMETRIC VIEW AD PANEL ATTACHMENT
9. MAKE SURE THE 1/2-13 BOLTS ARE AS CLOSE TO THE I-BEAM FLANGES AS POSSIBLE
10. WHEN AD PANEL IS ADJUSTED TO FINAL DESIRED POSITION, TIGHTEN BOLTS FIRMLY

CRITICAL
DO NOT USE ANY LUBRICANT
ON ANY MOUNTING HARDWARE
OR WARRANTY WILL BE VOIDED

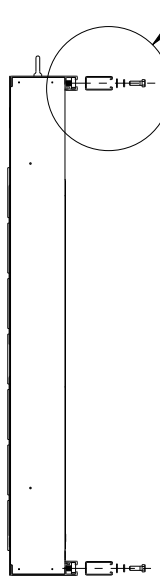
REV	DATE:		BY:

THIRD ANGLE PROJECTION

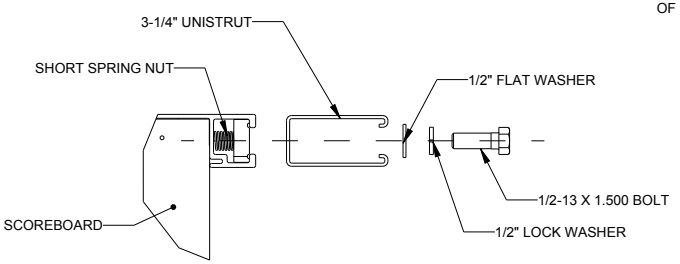
DAKTRONICS

PROJECT:	OUTDOOR AD PANELS		
TITLE:	LVX AD PANEL I-BEAM CLAMP MOUNTING		
DATE: 18-MAY-18	DIM UNITS: INCHES [MILLIMETERS]	SHEET	REV
SCALE: 1/5	DO NOT SCALE DRAWING	1 OF 1	00
DESIGN: KDRAGT	JOB NO. P1091	FUNC - TYPE - SIZE: E - 10 - B	3918326
DRAWN: KDRAGT			

Part # - 0A-1091-1954 | Version - 00.8 | Description - LVX I-BEAM MTG; OUTDOOR AD PANEL, 4 CONNECTIONS | Lifecycle State - Full Production | Last Modified By - kdragt | Last Modified - 2018-06-22

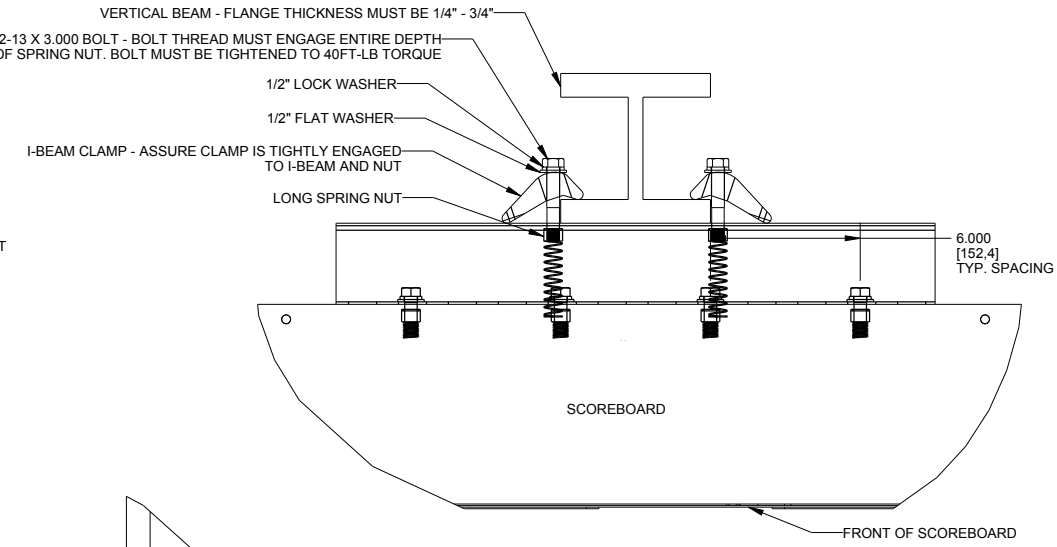


EXPLODED SIDE VIEW
UNISTRUT ATTACHMENT
SCALE 1/15

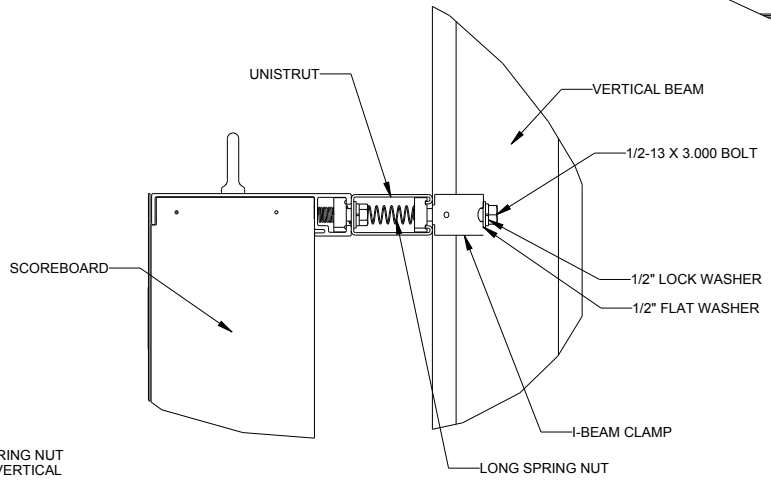


DETAIL A
SCALE 1/4

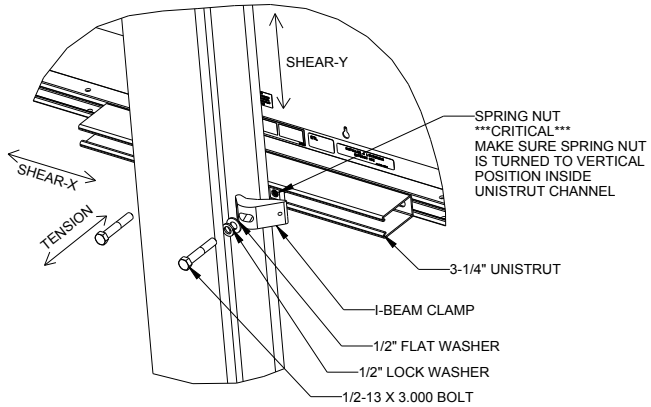
RECOMMENDED METHOD OF INSTALLATION:
- INSTALL 1 1/2" BOLT, 1/2" LOCK WASHER, 1/2" FLAT WASHER USING SHALLOW SOCKET WITH EXTENSION.
- ENTER FRO MSIDE OF UNISTRUT SECURING INSIDE BOLTS FIRST AND MOVING OUTWARD.



TOP VIEW



SIDE VIEW
SCOREBOARD ATTACHEMENT



EXPLODED REAR ROTATED VIEW

SCALE 1/8

STRUCTURAL NOTES

ALLOWABLE CAPACITY PER
COLUMN CONNECTION:
SHEAR = 185 LBS
TENSION = 2400 LBS

SHEAR AND TENSION LOAD
DIRECTION ARE AS INDICATED ON
REAR ISOMETRIC VIEW

STANDARD MOUNTING METHOD

MOUNTING INSTRUCTIONS:
1. PLACE SPRING NUTS INTO SCOREBOARD CHANNEL IN LOCATIONS SHOWN IN TOP VIEW
2. PLACE SPRING NUTS IN UNISTRUT IN APPROXIMATE LOCATION OF VERTICAL BEAMS
2. LIFT SCOREBOARD INTO POSITION
3. MAKE SURE THE 1/2-13 BOLTS ARE AS CLOSE TO THE I-BEAM FLANGES AS POSSIBLE
4. WHEN SCOREBOARD IS ADJUSTED TO FINAL DESIRED POSITION, TIGHTEN BOLTS FIRMLY
5. IF FLANGE THICKNESS IS MORE THAN 3/4" THICK LONGER BOLTS WILL BE REQUIRED AT THE CUSTOMER'S EXPENSE.

CRITICAL
DO NOT USE ANY LUBRICANT
ON ANY MOUNTING HARDWARE
OR WARRANTY WILL BE VOIDED

REV	DATE:		BY:

THIRD ANGLE PROJECTION

DAKTRONICS

PROJECT:	OUTDOOR SCOREBOARD		
TITLE:	P1647; LVX I-BEAM CLAMP MOUNTING		
DATE: 18-MAY-18	DIM UNITS: INCHES [MILLIMETERS]	SHEET	REV
SCALE: 1/5	DO NOT SCALE DRAWING	1 OF 1	00
DESIGN: KDRAGT	JOB NO. P1647	FUNC - TYPE - SIZE: E - 07 - B	3918361
DRAWN: KDRAGT			

C Daktronics Warranty & Limitation of Liability

This section includes the Daktronics Warranty & Limitation of Liability statement (SL-02374).

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DAKTRONICS WARRANTY & LIMITATION OF LIABILITY

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", which may also be the Purchaser) 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 per Incoterms® 2020. 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 per Incoterms® 2020; 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 per Incoterms® 2020. 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;

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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**

A. 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.

B. 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

C. 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

A. 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; Election of Remedies

A. 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.

B. Any dispute, controversy or claim arising from or related to this Warranty, the parties shall first attempt to settle through negotiations. In the event that no resolution is reached, then such dispute, controversy, or claim shall be resolved by final and binding arbitration under the Rules of Arbitration of the International Chamber of Commerce. The language of the arbitration

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shall be English. The place of the arbitration shall be Sioux Falls, SD. A single arbitrator selected by the parties shall preside over the proceeding. If a single arbitrator cannot be agreed upon by the parties, each party shall select an arbitrator, and those arbitrators shall confer and agree on the appointed arbitrator to adjudicate the arbitration. The arbitrator shall have the power to grant any provisional or final remedy or relief that it deems appropriate, including conservatory measures and an award of attorneys' fees. The arbitrator shall make its decisions in accordance with applicable law. By agreeing to arbitration, the Parties do not intend to deprive any court of its jurisdiction to issue a pre-arbitral injunction, pre-arbitral attachment, or other order in aid of arbitration proceedings and the enforcement of any award. Without prejudice to such provisional remedies as may be available under the jurisdiction of a court, the arbitrator shall have full authority to grant provisional remedies and to direct the Parties to request that any court modify or vacate any temporary or preliminary relief issued by such court, and to award damages for the failure of any Party to respect the arbitrator's orders to that effect.

6. Availability of Extended Service Agreement

A. 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).

Additional Terms applicable to sales outside of the United States

The following additional terms apply **only** where the installation site of the Equipment is located outside of the United States of America.

1. In the event that the installation site of the Equipment is in a country other than the U.S.A., then, notwithstanding Section 5 of the Warranty, where the selling entity is the entity listed in Column 1, then the governing law of this Warranty is the law of the jurisdiction listed in the corresponding row in Column 2 without regard to its conflict of law principles. Furthermore, if the selling entity is an entity listed in Column 1, then the place of arbitration is listed in the corresponding row in Column 3.

Column 1 (Selling Entity)	Column 2 (Governing Law)	Column 3 (Location of Arbitration)
Daktronics, Inc.	The state of Illinois	Chicago, IL, U.S.A.
Daktronics Canada, Inc.	The Province of Ontario, Canada	Toronto, Ontario, Canada
Daktronics UK Ltd.	England and Wales	Bristol, UK
Daktronics GmbH	The Federal Republic of Germany	Wiesbaden, Germany
Daktronics Hong Kong Limited	Hong Kong, Special Administrative Region of the P.R.C.	Hong Kong SAR
Daktronics Shanghai Co., Ltd.	The Peoples Republic of China	Shanghai, P.R.C.
Daktronics France, SARL	France	Paris, France
Daktronics Japan, Inc.	Japan	Tokyo, Japan
Daktronics International Limited	Macau, Special Administrative Region of the P.R.C.	Macau SAR
Daktronics Australia Pad Ltd	Australia	Sydney, Australia
Daktronics Singapore Pte. Ltd	Singapore	Singapore
Daktronics Brazil LTDA	Brazil	São Paulo, Brazil
Daktronics Spain S.L.U.	Spain	Madrid, Spain
Daktronics Belgium N. V	Belgium	Kruibeke, Belgium
Daktronics Ireland Co. Ltd.	Ireland	Dublin, Ireland

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