Single Section DistaView™ Outdoor LED Scoreboards Generation IV

Display Manual

ED-16962 ***Rev 2 – 30 October 2008***

DAKTRONICS

Models			
BA-624-31	**BA-2618-31**	**MS-915-31**	**SO-2918-31**
BA-1018-31	**BA-2715-31**	**MS-2004-31**	**TI-2015-31**
BA-2004-31	**BA-2718-31**	**MS-3918-31**	
BA-2010-31	**FB-824-31**	**SO-2008-31**	
BA-2515-31	**FB-4005-31**	**SO-2013-31/32**	

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DAKTRONICS

ED-16962
Product 1192
Rev 2 – 30 October 2008

Please fill in the information below for your display; use it for reference when calling Daktronics for assistance.

Display Serial No. _____

Display Model No. _____

Date Installed _____

DAKTRONICS, INC.

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Table of Contents

Section 1: Introduction

This manual explains the installation of ***Daktronics DistaView Outdoor LED Scoreboards*** and provides details for display maintenance. With questions regarding the safety, installation, operation or service of these systems, contact Daktronics Customer Service at 1-877-605-1115. For more information on Daktronics Customer Service see **Section 5.9** of this manual.

1.1 How To Use This Manual

Important Safeguards:

1. Read and understand these instructions before installing the display.
2. Do not drop the control console or allow it to get wet.
3. Properly ground the scoreboard with a grounding electrode at the scoreboard location.
4. ***Disconnect power when the scoreboard is not in use.***
5. ***Disconnect power when servicing the scoreboard.***
6. Do not modify the scoreboard structure or attach any panels or coverings to the scoreboard without the express written consent of Daktronics, Inc.

Figure 1 illustrates the Daktronics drawing numbering system. Daktronics identifies individual engineering drawings by their drawing number (7087-P08A-69945 in the example), which is located in the lower right corner of the drawing. This manual refers to drawings by their last set of numbers and the letter preceding them. The example would be **Drawing A-69945**.

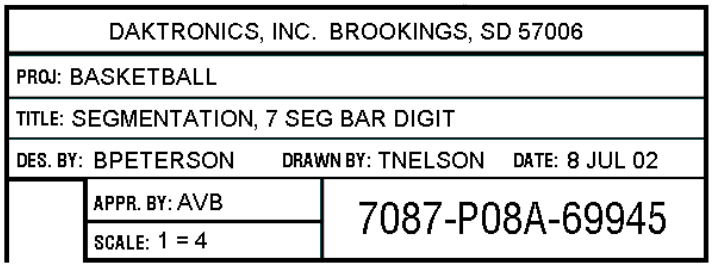


Figure 1: *Daktronics Drawing Label*

Reference drawings are grouped and inserted in alphanumeric order in the **Appendix**.

Listed below are a number of drawing types commonly used by Daktronics, along with the information that each is likely to provide.

- **System riser diagrams:** overall system layout from control room to display, power, and phase requirements.

- **Shop drawings:** fan locations, transformer locations, mounting information, power and signal entrance points, and access method (front or rear).

- **Schematics:** power wiring, signal wiring, panelboard or power termination panel assignments, signal termination panel assignments, and transformer assignments.

- **Final assembly:** component locations, part numbers, display dimensions, and assembly/disassembly instructions.

All references to drawing numbers, appendices, figures, or other manuals are presented in **bold** typeface, as in this example: “Refer to **Drawing A-114667** for the location of the driver enclosure.” Additionally, any drawings referenced within a particular subsection are listed at the beginning of that subsection in the following manner:

Reference Drawing:

Shop Drawing; 16 High 2 ½" Small Matrix.....**Drawing A-114667**

Daktronics identifies manuals by their engineering document (ED) number, which is located on the cover page of the manual. For example, this manual would be referred to as **ED-16962**.

The serial and model numbers of a Daktronics scoreboard can be found on the ID label on the display. The label will be similar to the one shown in **Figure 2**. When calling Daktronics Customer Service, please have this information available to ensure that your request is serviced as quickly as possible. For future reference, note your scoreboard model number, serial number, and installation date on the second page of this manual.

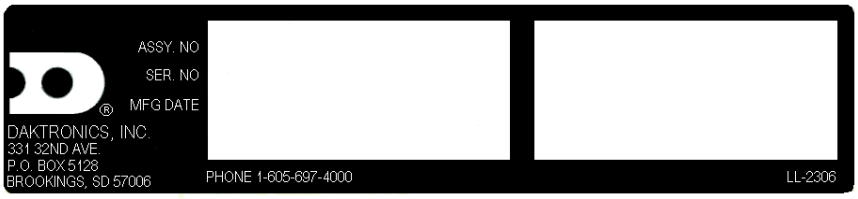


Figure 2: *Scoreboard ID Label*

Daktronics displays are built for long life and require little maintenance. However, from time to time, certain display components will have to be replaced. The Replacement Parts List in **Section 5** provides the names and part numbers of components that may require replacement during the life of this display.

Following the Replacement Parts List is an explanation of Daktronics' exchange and replacement programs. Refer to these instructions if you must replace or repair any display component.

1.2 Daktronics Nomenclature

To fully understand some Daktronics drawings, such as schematics, it is necessary to know how various components are labeled in those drawings. This information is useful when trying to communicate maintenance or troubleshooting efforts.
The label “A” on a drawing item typically denotes an assembly. An assembly can be

a single circuit board or a collection of components that function together, usually mounted on a single plate or in a single enclosure.

In addition, the following labeling formats might be found on various Daktronics drawings:

- "TB _ _" denotes a termination block for power or signal cable.
- "F _ _" denotes a fuse.
- "E _ _" denotes a grounding point.
- "J _ _" denotes a power or signal jack.
- "P _ _" denotes a power or signal plug for the opposite jack.

Finally, Daktronics part numbers are commonly found on drawings. Those part numbers can be used when requesting replacement parts from Daktronics Customer Service. Take note of the following part number formats. (Not all possible formats are listed here.)

- "0P- _ _ _ _- _ _ _ _" denotes an individual circuit board, such as a driver board.
- "0A-_ _ _ _ - _ _ _ _" denotes an assembly, such as a circuit board and the plate or bracket to which it is mounted. A collection of circuit boards working as a single unit may also carry an assembly label.
- "W- _ _ _ _" denotes a wire or cable. Cables may also carry the assembly numbering format in certain circumstances. This is especially true for ribbon cables.
- "F- _ _ _ _" denotes a *fuse*.
- "T- _ _ _ _" denotes a transformer.
- "PR- _ _ _ _ _ - _" denotes a specially ordered part.
- "M- _ _ _" denotes a metal part, and "0S-_ _ _ _ _ _" typically denotes a fabricated metal assembly.

1.3 Product Overview

The Daktronics DistaView LED scoreboards are part of a family of scoring and timing displays designed to offer easy installation, readability and reliability. Microprocessor control assures consistent operation and accuracy.

Featuring large, highly visible DistaView digits, the boards use light emitting diodes, or LEDs, to illuminate the display. LEDs are tiny, solid-state components that use a semiconductor chip to transform electrical current into light; they are high-intensity, low-energy lighting units. Scoreboards in this series only use red LEDs for optimum outdoor readability.

Because of their LED technology, the scoreboards consume little power – barely more than a single household lamp. Power usage for displays in this series equals 100 watts.

Each of the sections in this manual contains model-specific information, including physical dimensions, digit configuration, and power requirements. The scoreboard engineering drawings, located in **Appendix A**, also list dimensions, weight, and mounting instructions for each display. Additionally, scoreboard model number and electrical requirements can be found on a label on the scoreboard entrance panel.

Cabinets for the displays are constructed of heavy-gauge aluminum. Digit and indicator faceplates are black, and they are set directly into the scoreboard surface.

The outdoor LED scoreboards have been designed for use with an All Sport® 5000 Series control console; displays equipped with team name message centers require an All Sport 5000 Series controller. Both consoles use All Sport keyboard overlays (sport inserts) for game control, and the boards operate without modification on All Sport 5000 signal protocol. Refer to the following controller manuals for operating instructions:

- **ED-11976**: All Sport 5000 Series Control Console Operation Manual

1.4 Model Names

Daktronics scoreboards are differentiated by their model numbers: *BA-2718*, for example, designates a specific baseball scoreboard. The two-letter prefixes for scoreboards in this manual include the following: **BA** – baseball; **CT** – counter; **FB** – football; **MS** – multisport; **RO** – rodeo; **SO** – soccer; and **TI** – timer.

1.5 Product Safety Approval

Daktronics outdoor scoreboards are ETL and CE listed and tested to CSA standard for outdoor use. Contact Daktronics with any questions regarding testing procedures.

Section 2: Specifications

The following table shows all of the mechanical specifications, circuit specifications, and maximum power requirements for each model in this manual. Models are listed in alphanumeric order.

Notes: Driver address setting can be configured using the J19 address plug. Also, the S1 dip switch is found in all Gen IV drivers. For more details see **Section 5.4**.

Display Specifications BA-2718-31 & BA-2618-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	5'-0" (1524 mm) High 10'-0" (3048 mm) Wide 6" (152 mm) Deep
Weight	115 lb (52 kg)
Nominal Digit Size	18" (457 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	100 W
Circuit	120 V AC
Amps	0.9 A
Driver number and Address	A1 62 BA-2718-31 A1 61 BA-2618-31
Display Specifications SO-2918-31, MS-3918-31 & FB-4005-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	5'-0" (1524 mm) High 10'-0" (3048 mm) Wide 6" (152 mm) Deep
Weight	115 lb
Nomi nal Digit Size	18"
Digit/Indicator Color	Red
Maximum Display Wattage	200 W
Circuit	120 V AC
Amps	1.7 A
Driver number and Address	A1 11 SO-2918-31 A1 11 MS-3918-31 A1 11 FB-4005-31

Display Specifications SO-2918-32 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	5'-0" (1524 mm) High 10'-0" (3048 mm) Wide 6" (152 mm) Deep
Weight	115 lb (52 kg)
Nominal Digit Size	18" (457 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	200 W
Circuit	240 V AC
Amps	0.84 A
Driver number and Address	A1 11 SO-2918-32

Display Specifications TI-2015-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	2'-4" (711 mm) High 3'-4" (1016 mm) Wide 6" (152 mm) Deep
Weight	36 lb (16 kg)
Nominal Digit Size	24" (610 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	150 W
Circuit	120 V AC
Amps	1.25 A
Driver number and Address	A1 02 TI-2015-31

Display Specifications BA-624-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	6'-0" (1829 mm) High 16'-0" (4877 mm) Wide 6" (152 mm) Deep
Weight	300 lb (136 kg)
Nominal Digit Size	24" (610 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	100 W
Circuit	120 V AC
Amps	0.9 A
Driver number and Address	A1 61 BA-624-31

Display Specifications BA-1018-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	6'-0" (1829 mm) High 14’-0" (4267 mm) Wide 6” (152 mm) Deep
Weight	216 lb (98 kg)
Nominal Digit Size	18" (457 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	200 W
Circuit	120 V AC
Amps	1.7 A
Driver number and Address	A1 12 BA-1018-31

Display Specifications BA-2515-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	3'-0" (914 mm) High 6’-0" (1829 mm) Wide 6” (152 mm) Deep
Weight	75 lb (34 kg)
Nominal Digit Size	15" (381 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	100 W
Circuit	120 V AC
Amps	0.9 A
Driver number and Address	A1 61 BA-2515-31

Display Specifications BA-2715-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	3'-0" (915 mm) High 9'-0" (2743 mm) Wide 6" (152 mm) Deep
Weight	100 lb (45 kg)
Nominal Digit Size	18" (457 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	100 W
Circuit	120 V AC
Amps	0.9 A
Driver number and Address	A1 61 BA-2715-31

Display Specifications SO-2013-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	6'-0" (1829 mm) High 16'-0" (4877 mm) Wide 6" (152 mm) Deep
Weight	450 lb (204 kg)
Nominal Digit Size	18" (457 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	400 W
Circuit	120 V AC
Amps	3.4 A
Driver number and Address	A1 13 SO-2013-31 A2 14

Display Specifications MS-915-31 DistaView LED Scoreboards	
Dimensions **(Height/Width/Depth)**	4'-0" (1219 mm) High 8'-0" (2439 mm) Wide 6" (152 mm) Deep
Weight	88 lb (40 kg)
Nominal Digit Size	15" (381 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	200 W
Circuit	120 V AC
Amps	1.6 A
Driver number and Address	A1 11 MS-915-31

Display Specifications BA-2004-31 DistaView LED Scoreboards	
Dimensions **(Height/Width/Depth)**	6'-6" (1981 mm) High 20'-0" (6096 mm) Wide 6" (152 mm) Deep
Weight	600 lb (272 kg)
Nominal Digit Size	15" (381 mm) & 18" (457 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	600 W
Circuit	120 V AC
Amps	5.0 A
Driver number and Address	A1 67 BA-2004-31 A2 68 A3 69

Display Specifications BA-2010-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	6'-0" (1829 mm) High 8'-0" (2438 mm)` Wide 6" (152 mm) Deep
Weight	180 lb (82 kg)
Nominal Digit Size	18" (457 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	200 W
Circuit	120 V AC
Amps	1.67 A
Driver number and Address	A1 61 BA-2010-31

Display Specifications FB-824-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	4'-0" (1219 mm) High 14'-0" (4267 mm) Wide 6" (152 mm) Deep
Weight	200 lb (91 kg)
Nominal Digit Size	24" (610 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	200 W
Circuit	120 V AC
Amps	1.7 A
Driver number and Address	A1 11 FB-824-31

Display Specifications SO-2008-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	5'-6" (1676 mm) High 16'-0" (4877 mm) Wide 6" (152 mm) Deep
Weight	240 lb (109 kg)
Nominal Digit Size	18" (457 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	200 W
Circuit0	120 V AC
Amps	1.67 A
Driver number and Address	A1 17 SO-2008-31

Display Specifications MS-2004-31 DistaView LED Scoreboards	
Dimensions (Height/Width/Depth)	5'-0" (1524 mm) High 18'-0" (5486 mm) Wide 6" (152 mm) Deep
Weight	300 lb (136 kg)
Nominal Digit Size	18" (457 mm)
Digit/Indicator Color	Red
Maximum Display Wattage	600 W
Circuit	120 V AC
Amps	5 A
Driver number and Address	A1 74 MS-2004-31 A2 75

Section 3: Mechanical Installation

Mechanical installation consists of installing concrete footings and steel beams and mounting the scoreboard and accompanying ad panels to the beams.

3.1 Scoreboard Protective Devices

Note: Some users install devices to protect the scoreboard from projectiles. Scoreboard protection devices not provided by Daktronics must be approved by Daktronics prior to installation. Failure to follow this approval procedure will void the scoreboard warranty. Daktronics makes available optional devices, including screens and netting, to help protect the scoreboard from damage due to normal ball impacts.

3.2 Erecting Beams and Columns

Reference Drawings:

Installation Specifications; BA-624-31, SO-2013-31 ..... **Drawing A-55007**
Installation Specifications; BA-1018-31 ..... **Drawing A-61904**
Installation Specifications; MS-915-31..... **Drawing A-113568**
Installation Specifications; FB-824 & SO-824..... **Drawing A-127287**
Installation Specifications; SO-2008 ..... **Drawing A-149074**
Installation Specifications; BA-2004/2005/2011 ..... **Drawing A-152777**
Installation Specifications; TI-2015 ..... **Drawing A-173484**
Installation Specifications; MS-2004..... **Drawing A-176286**
Installation Specifications; BA-2010 ..... **Drawing A-179304**
Installation Specifications; 5'x10' DistaView ..... **Drawing A-206385**
Installation Specifications; 5'x10' DistaView
1 side ad panel ..... **Drawing A-206433**
Installation Specifications; 5'x10' DistaView
2 side ad panel ..... **Drawing A-206437**
Installation Specifications; 3'x6' DistaView ..... **Drawing A-222869**
Installation Specifications; 3'x6' DistaView
1 side ad panel ..... **Drawing A-222872**
Installation Specifications; 3'x6' DistaView
2 side ad panel ..... **Drawing A-222875**
Installation Specifications; BA-2715-31 ..... **Drawing A-229969**
Installation Specifications;
BA-2715-31 with 1 Ad panel..... **Drawing A-229970**

Refer to the drawings listed above for typical display installation with and without ad panels. The drawings depict beams, footings, and wiring conduits.

Be sure that the installation complies with local building codes and is suitable for both the type of soil and for wind conditions in the area. A licensed structural engineer must design all footings and beam structures.

Note: Daktronics assumes no liability for structures designed and installed by others.

3.3 Lifting the Scoreboard

Reference Drawings:

Lifting Scoreboard ..... **Drawing A-44548**

Small Daktronics scoreboards are not equipped with eyebolts. Refer to **Drawing A-44548** for lifting detail

Larger scoreboard sections and message centers are shipped equipped with eyebolts that are used to lift the displays. The eyebolts are located along the top of the cabinet for each scoreboard or scoreboard section.

Note: Daktronics strongly recommends using a spreader bar, or lifting bar, to lift the display.

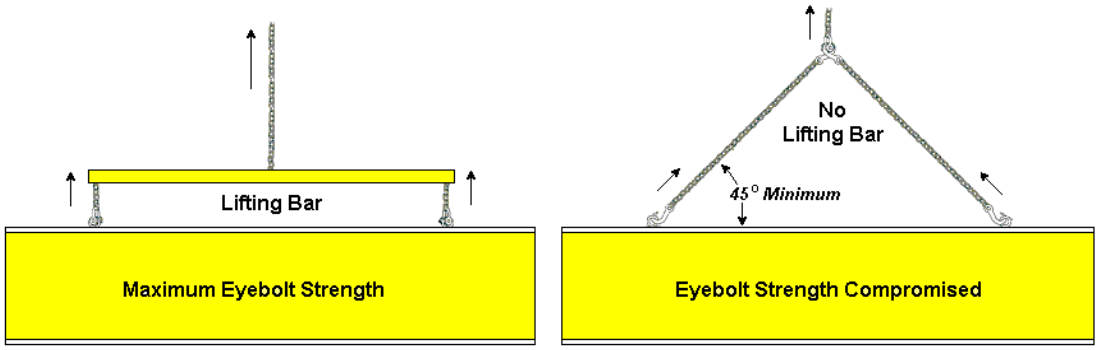


Figure 3: *Lifting the Display*

Using a spreader bar ensures that the force on the eyebolts is straight up, minimizing lifting stress. Lifting methods are shown in **Figure 3** and in **Drawing A-44548**.

Figure 3 illustrates both the preferred method (left example) and an alternative method (right example) for lifting a scoreboard. When lifting the display:

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

Take special care not to exceed the rated load of the eyebolts. Refer to **ED-7244**, **Eyebolts**, to determine allowable loads and load angles for the lifting hardware. **ED-7244** is located in **Appendix B** of this manual.

Avoid using other lifting methods. Cables and chains attached to the eyebolts and directly to a center lifting point, as shown in the right-hand example in **Figure 3**, can create a dangerous lateral force on the eyebolts and may cause the eyebolts to fail. Daktronics scoreboards use $^{1}/_{2}$" and $^{5}/_{8}$" shoulder-type eyebolts mounted to a $^{1}/_{8}$" aluminum plate or steel nut plate, but exceeding load angles or weight limits could cause the bolts to pull out or the scoreboard cabinet to buckle. In either circumstance, there could be serious damage to the scoreboard. If you must use this method, ensure a minimum angle between the chain and scoreboard of at least 45°.

Note: Daktronics assumes no liability for scoreboard damage resulting from incorrect setup or incorrect lifting methods.

Eyebolts are intended for lifting only. Do not attempt to permanently support the display by the eyebolts.

In installations in which an ad panel or some other scoreboard section may be added to the base display, the lower scoreboard section is installed first and secured to the support beams, and then the upper section is placed atop or above the lower section and attached to the beams. There may be cables extending from the top of the lower section. Guide these cables into the hole in the bottom of the upper section for later connection.

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

3.4 Scoreboard Mounting

Reference Drawings:

Scoreboard Mounting.....**Drawing A-55101**
Installation Specifications; 5'x10 .....**Drawing A-55007**
Installation Specifications; 5'x10; .....**Drawing A-61904**
Installation Specifications; MS-915-31.....**Drawing A-113568**
Installation Specifications; FB-824 & SO-824.....**Drawing A-127287**
Installation Specifications; SO-2008 .....**Drawing A-149074**
Installation Specifications; BA-2004/2005/2011 .....**Drawing A-152777**
Installation Specifications; TI-2015 .....**Drawing A-173484**
Installation Specifications; MS-2004 .....**Drawing A-176286**
Installation Specifications; BA-2010 .....**Drawing A-179304**
Installation Specifications; 5'x10' DistaView .....**Drawing A-206385**
Installation Specifications; 5'x10' DistaView
1 side ad panel .....**Drawing A-206433**
Installation Specifications; 5'x10' DistaView
2 side ad panel .....**Drawing A-206437**
Installation Specifications; 3'x6' DistaView .....**Drawing A-222869**
Installation Specifications; 3'x6' DistaView
1 side ad panel .....**Drawing A-222872**
Installation Specifications; 3'x6' DistaView
2 side ad panel .....**Drawing A-222875**
Installation Specifications; BA-2715-31 .....**Drawing A-229969**
Installation Specifications;
BA-2715-31 with 1 Ad panel.....**Drawing A-229970**

Daktronics DistaView Outdoor LED scoreboards are typically mounted to steel beams. Beam-mounted installations require that a qualified engineer provide specifications for both the reinforced concrete footings and the steel support beams.

Each display has plastic plugs in the rear for power and signal entrance. Refer to **Drawings A-55007, A-61904, A-113568, A-127287, A-149074, A-152777, A-173484, A-176286, A-179304, A-206385**, **A-206433**, **A-206437**, **A-222869**, **A-222872** and **A-222875** for locations. Power and signal are brought into the INNING section (housing the master driver) through these external plastic plugs.

Refer to the installation specifications drawings listed above for further details regarding scoreboard installation.

Drawings A-206433 and **A-222872** detail scoreboard installation including one ad panel and **Drawings A-206437** and **A-222875** detail installation including two ad panels. Refer to those drawings for detailed information regarding installing your scoreboard with ad panels.
These scoreboard models use an inverted channel mounting, illustrated in **Drawing A-55101.** Refer to any installation specifications drawing (listed in **Appendix: A**) for your model to determine the center-to-center distance of the poles.

3.5 Scoreboard Mounting

There are two basic styles for mounting Daktronics single-section outdoor scoreboards. Installation procedures are detailed later in this section. Use the following tables to determine the mounting method required for your scoreboard:

Method 1		
BA-624-31	BA-2010-31	SO-2008-31
BA-1018-31	FB-824-31	SO-2013-31
BA-2004-31	MS-2004-31	
Method 2		
BA-2515-31	BA-2718-31	MS-3918-31
BA-2618-31	FB-4005-31	SO-2918-31/32
BA-2715-31	MS-915-31	TI-2015-31

3.6 Mounting Method 1

Reference Drawings:

Display Mounting .....**Drawing A-44412**
Ad Panel Mounting.....**Drawing A-52187**

Drawing A-44412 shows the hardware used for mounting the scoreboard to the beams. Mounting hardware includes inner and outer mounting clamps, clip angles, $^{1}/_{2}$-13 x 15" threaded rods, $^{3}/_{8}$-16 x 2" bolts, hex nuts and split lockwashers, and $^{1}/_{2}$" square nuts, hex nuts, and split lockwashers. Each section of the scoreboard attaches at the top and the bottom to all the beams. The drawing also shows top and side views of the scoreboard secured to the beams.

Note: The threaded rods do not pass through the flanges of the beams, but instead run along both sides of each beam.

Refer to the installation specifications drawing for your scoreboard model (listed in **Section 3.4)** to determine the center-to-center distance of the poles for each model. Review the illustration of the mounting hardware in **Drawing A-44412**, or refer to **Figure 4**, and then use the following procedure for each section.

1. Using $^{3}/_{8}$" bolts, loosely attach the inner and outer mounting clamps to the rear flanges of the scoreboard horizontal frame members. Measure the beam spacing and position the clamps to fit on either side of the beams.

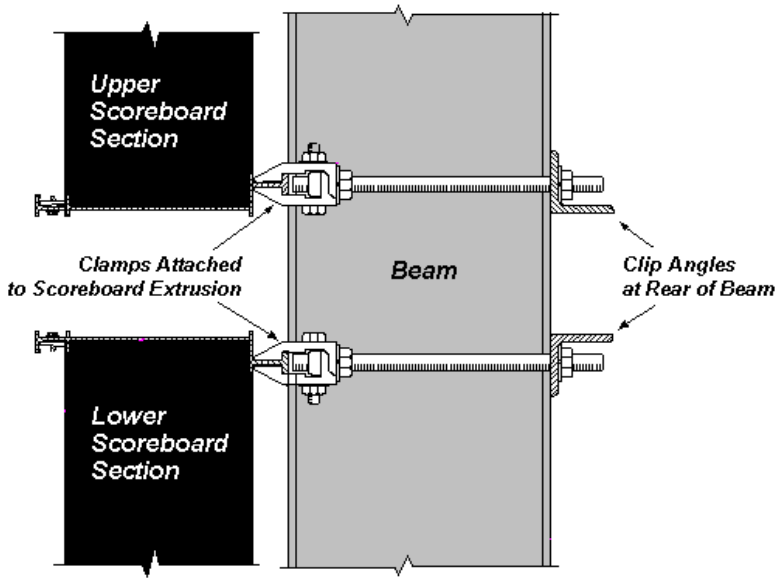


Figure 4: *Clamp Mounting Method, Side View*

2. Insert a $^{1}/_{2}$" square nut into each mounting clamp. Screw a threaded rod into each of the nuts from the rear.
3. Position the scoreboard at the front of the beams with the threaded rods extending from the rear of the clamps, straddling the beams. Raise the scoreboard section to the desired height.

4. Slide clamping angles over the ends of the rods and loosely install the washers and nuts.
5. Make final adjustments in the positioning of the scoreboard. Tighten the $^{3}/_{8}$" bolts in the mounting clamps.
6. Make sure that the threaded rods are perpendicular to the scoreboard and tighten all of the $^{1}/_{2}$" nuts.

3.7 Mounting Method 2

Reference Drawing:

Scoreboard Mounting ..... **Drawing A-55101**

These scoreboard models use an inverted channel mounting, illustrated in **Drawing A-55101.** Refer to any installation specifications drawing (listed in **Section 3.5**) for your model to determine the center-to-center distance of the poles.

The installation uses C-channel; mounting angles, $^{1}/_{2}$-13" threaded rod, and $^{1}/_{2}$" square nuts, hex nuts, and lockwashers. Mount the scoreboard as follows:

1. Place the C-channel against the upper and lower rear flanges of the scoreboard cabinet, as shown in **Drawing A-55101** and **Figure 5**.

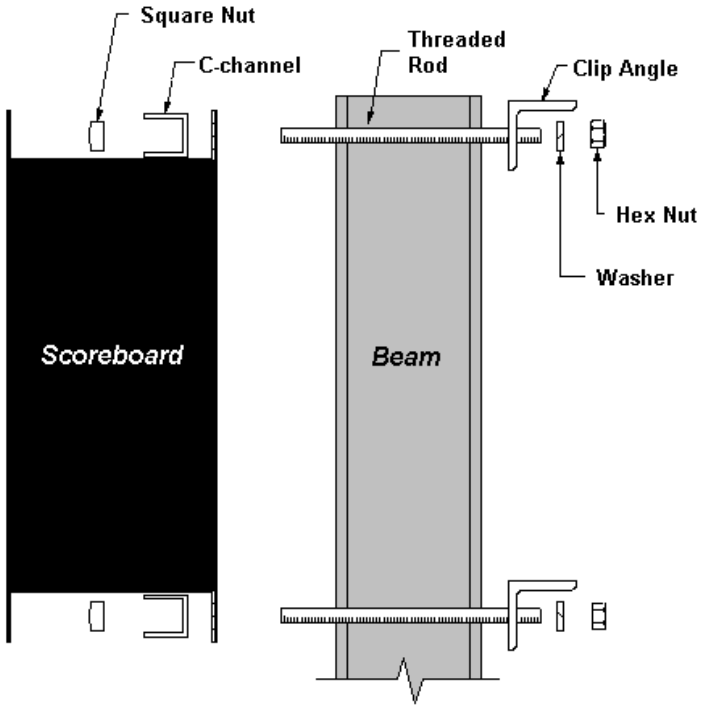


Figure 5: *Mounting with C-channel, Side View*

2. Use the mounting channel to determine the appropriate hole combination to use. Be sure to keep the bolts as close to the beam as possible.
3. Using the mounting channel as a template, drill $^{9}/_{16}$" holes in the upper and lower rear flanges of the scoreboard where the supports will be placed.
4. Place the $^{1}/_{2}$" square nuts inside the C-channel and thread the $^{1}/_{2}$-13" bolts through the channel and the back flange of the display cabinet.

5. Lift the scoreboard into position with the bolts still in place. Position the scoreboard at the front of the beams with the threaded rods extending from the rear flanges of the display.
6. With the threaded rod straddling the beams, place mounting angles over each pair of bolts and secure with $^1/_2$" lockwashers and hex nuts.
7. Make final adjustments in the position of the scoreboard, and after verifying that the threaded rods are perpendicular to the display, firmly tighten all of the $^1/_2$" hex nuts.

3.8 Scoreboard Mounting Using Spacers

Reference Drawing:

Scoreboard Mtg; Scoreboard with Spacers .....**Drawing A-182909**

Many Daktronics customers add message centers or advertising panels to the top or bottom of their scoreboards, and in some cases the depth of the add-on component may not match the depth of the scoreboard. (Scoreboards in this series are typically 6" or 11" deep.)

To create a uniform appearance for the overall display, Daktronics recommends using spacers behind the scoreboard so that the front face of the display lines up evenly with the front face of the added component. The concept is illustrated in **Figure 6**.

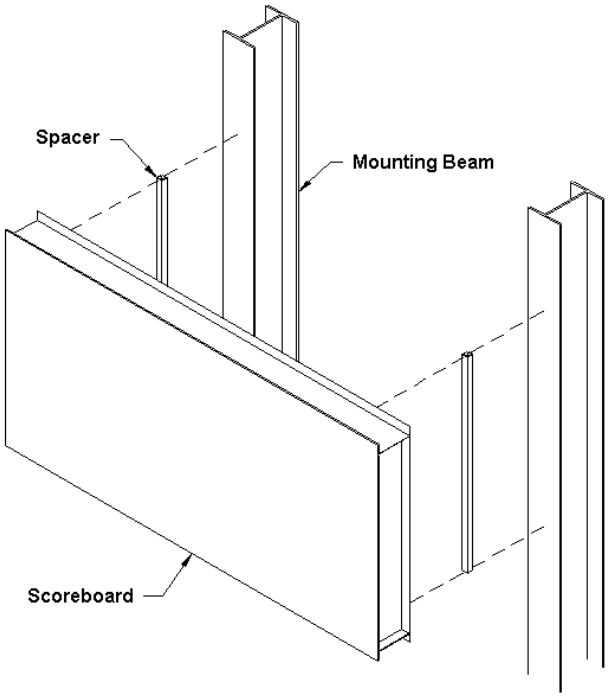


Figure 6: *Mounting with Spacers*

Drawing A-182909 provides complete details for inserting spacers. During the installation, spacers are placed between the mounting beams and the back of the scoreboard cabinet. Spacer size is determined by the height and the extra depth required for the front surface of the scoreboard to match that of the optional message center or ad panel.

Note: Daktronics does not provide these spacers.

3.9 Ad Panel Mounting

Reference Drawings:

Ad Panel Mounting ..... **Drawing A-52187**
Installation Specifications; 5'x10' DistaView..... **Drawing A-206385**
Installation Specifications; 5'x10' DistaView
1 side ad panel..... **Drawing A-206433**
Installation Specifications; 5'x10' DistaView
2 side ad panel..... **Drawing A-206437**
Installation Specifications; 3'x6' DistaView..... **Drawing A-222869**
Installation Specifications; 3'x6' DistaView
1 side ad panel..... **Drawing A-222872**
Installation Specifications;
3'x6' DistaView 2 side ad panel ..... **Drawing A-222875**
Installation Specifications;
BA-2718-311 side ad panel ..... **Drawing A-229970**

Refer to **Drawings A-52187**, **A-206385**, **A-206433**, **A-206437**, **A-222869**, **A-222872** and **A-222875** for mounting details. The installation uses C-channel, mounting angles, $^{1}/_{2}$-13" threaded rod, and $^{1}/_{2}$" square nuts, hex nuts, and lockwashers.

Mount the ad panel or panels in the following manner:

1. Use the mounting channel to determine which hole combination to use. 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 the ad panel where the C-channel supports will be placed.
3. Position the C-channel *inside* the ad panel cabinet along the upper and lower back flanges.
4. Place square nuts inside the channel and thread the long rods through both the C-channel and the flange.
5. Lift the ad panel into position with the rods still in place.
6. With the threaded rod straddling the beams, place mounting angles over each pair of bolts and secure with $^{1}/_{2}$" lockwashers and hex nuts.
7. When the panel is adjusted to the final desired position, tighten hex nuts firmly.

Some ad panels have back sheets that must be removed before the display can be installed. After marking and drilling holes in the upper and lower rear flanges of the ad panel, remove the back sheets above and below the hole locations. Position the C-channel inside the cabinet and attach the square nuts to the threaded rods as described above. Be sure to replace the back sheets after placing the square nuts inside the channel and threading the rods through the holes in the upper and lower flanges.

Section 4: Electrical Installation

Electrical installation consists of the following processes:

- Providing power and ground to a disconnect near the scoreboard;
- Routing power and ground from the main disconnect to the scoreboard driver/power enclosure;
- Connecting the scoreboard ground to a grounding electrode at the scoreboard location;
- Routing the control signal cable from the control location to the scoreboard location.

Note: Only qualified individuals should perform power routing and termination to the display. It is the responsibility of the electrical contractor to ensure that all electrical work meets or exceeds local and national codes.

4.1 Power

Reference Drawing:

Schematic; XFMR 8 Col, GEN IV, DistaView LED .....**Drawing A-285892**
Schematic; XFMR 16 Col, GEN IV, DistaView LED ....**Drawing A-286657**
Schematic; DistaView OD LED Multi-driver Display....**Drawing A-229706**
Schematic; XFMR 16 Col, GEN IV, Outdoor Driver ...**Drawing A-704861**

Daktronics outdoor LED scoreboards have been designed for easy access to components, and the power and control signal hookup has been simplified. Front panels are removable to allow access to the digits, cabling, and other electronic components.

Correct power installation is imperative for proper display operation. The subsections that follow give details of display power installation. Only qualified individuals should attempt to complete the electrical installation; untrained personnel should not attempt to install these displays or any of the electrical components. Improper installation could result in serious damage to the equipment and could be hazardous to personnel.

The single-section outdoor scoreboards require a dedicated, 120 V circuit for incoming power. The display itself has no breakers or fuses.

WARNING: It is critical that the scoreboard circuit be fused at 15 A, and that all conductors used must be designed to pass a 15 A current in normal operation. Failure to meet wiring and overcurrent protection device requirements is a violation of the National Electrical Code® and will void the scoreboard warranty.

All power conductors are 14 AWG, except where 18 AWG wiring is called out on the schematic. All signal conductors are 18 AWG.

Refer to the outdoor scoreboard schematics listed at the beginning of this section and to the table in **Section 2** to determine circuit specifications and maximum power requirements for the models described in this manual.

Grounding

Note: Displays MUST be grounded according to the provisions outlined in Article 250 of the National Electrical Code and according to the specifications in this manual. Daktronics recommends a resistance-to-ground of 10 ohms or less.

The electrical contractor performing the electrical installation can verify ground resistance. Daktronics Sales and Service personnel can also provide this service.

The display system *must* be connected to an earth electrode installed at the display. Proper grounding is necessary for reliable equipment operation. It also protects the equipment from damaging electrical disturbances and lightning.

Note: The display must be properly grounded, or the warranty will be void.

Refer to the schematics listed at the beginning of this section for information about ground wire connection. The connection is illustrated in the "Pwr In" detail on each of the schematics.

The material for an earth-ground electrode differs from region to region and may vary according to conditions present at the site. Consult the National Electrical Code and any local electrical codes that may apply. The support structure of the display cannot be used as an earth-ground electrode. The support is generally embedded in concrete, and if it is in earth, the steel is usually primed or it corrodes, making it a poor ground in either case.

Power Installation

There are two considerations for 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 paragraphs:

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.

Note: This would violate electrical codes and void the warranty.

Use a disconnect so that all hot lines and neutral can be disconnected. The National Electrical Code requires the use of a lockable power disconnect within sight of or at the display.

Installation with Only a Neutral Conductor Provided

Installations where no grounding conductor is provided must comply with Article 250-32 of the National Electrical Code. If the installation in question meets all of the requirements of Article 250-32, the following guidelines must be observed:

- 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.

4.2 Power and Signal Connection

Reference Drawings:

Schematic; DistaView OD LED Multi-driver Display....**Drawing A-229706**
Driver; GEN IV LC Outdoor LED, 16 Col.....**Drawing A-285469**
Driver; GEN IV LC Outdoor LED, 8 Col.....**Drawing A-285470**
Schematic; XFMR 8 Col, GEN IV, DistaView LED.....**Drawing A-285892**
Schematic; XFMR 16 Col, GEN IV, DistaView LED....**Drawing A-286657**
Schematic; XFMR 16 Col, GEN IV, Outdoor Driver ...**Drawing A-704861**

All power and signal wiring terminates at the termination connector **TB1**, as illustrated in **Drawing A-285892** and **A-286657**.

To gain access to the termination connector, open the access door and remove the cover from the enclosure. Refer to the component locations drawings for the access location for your scoreboard.

Connect power and signal cables at the appropriate locations on the termination connector **TB1**, shown in **Drawing A-285892, A-286657**, **A-229706** and **A-704861.**

Note: The **TB1** termination connector has protection variators across the terminals labeled "signal" to the terminal labeled "ground." For more information, refer to **Drawing A-285892, A-286657, A-229706,** and **A-704861..**

For signal cable, Daktronics recommends, as a minimum, single-pair, shielded cable, 22 AWG (Daktronics part number W-1077). Two-pair shielded cable (Daktronics part W-1614) is preferred.

For additional information on signal connection, refer to the All Sport 5000 Series control console operation manual, **ED-11976**.

Section 5: Scoreboard Maintenance and Troubleshooting

IMPORTANT NOTES:

1. **Disconnect power before doing any repair or maintenance work on the scoreboard!**

2. **Permit only qualified service personnel to access internal display electronics.**

3. **Disconnect power when not using the scoreboard.**

5.1 Cabinet Specifications

Cabinets for the Daktronics outdoor LED scoreboards are constructed of heavy-gauge aluminum. Exact dimensions and weights for each model are listed in the chart in **Section 2**. Removable panels for digits and indicators and for component access are detailed in each model's component locations drawing, listed in the following section.

5.2 Component Location and Access

Reference Drawing:

Component Locations; BA-2515-31, G3LC .....**Drawing A-222583**
Component Locations; BA-2715-31, G3LC .....**Drawing A-230119**
Component Locations; BA-2718-31, G3LC .....**Drawing A-206050**
Component Locations; BA-2618-31, G3LC .....**Drawing A-208073**
Component Locations; SO-2918-31, G3LC.....**Drawing A-220840**
Component Locations; MS-3918-31, G3LC .....**Drawing A-220350**
Component Locations; FB-4005-31, G3LC .....**Drawing A-221249**
Component Locations; BA-1018-31, FD,G3.....**Drawing A-227884**
Component Locations; BA-624-31, FD,G3.....**Drawing A-227963**
Component Locations; SO-2013-31, FD,G3 .....**Drawing A-228864**
Component Locations; TI-2015-31, G3 .....**Drawing A-221827**
Component Locations; MS-915-31.....**Drawing A-238274**
Component Locations; MS-2004-31 .....**Drawing A-245172**
Component Locations; FB-824-31.....**Drawing A-245179**
Component Locations; BA-1018-31.....**Drawing A-248737**
Component Locations; BA-2004-31.....**Drawing A-248741**
Component Locations; SO-2008-31 .....**Drawing A-248745**

For front-access scoreboards, all internal electronic components and digits can be reached by opening a face panel, an access door, or a digit panel on the front of the display.

In the Daktronics DistaView LED outdoor scoreboards, digits are attached to the hinged doors on the front of the scoreboard. Refer to **Component location drawings** for more details.

Component location varies with each scoreboard model, but drivers and power and signal components are typically mounted inside the scoreboard behind an access panel or a digit.

With a non-digit access panel, simply remove the top, side and bottom screws holding it in place. Some panels are hinged and swing open when the screws are removed or loosened.

Note: Disconnect power before servicing the display! Disconnect power, too, when the display is not in use. Prolonged power-on may shorten the life of some electronic components.

Replacing a Digit

The digit circuit board, the platform for the LEDs, is mounted to the back of the digit panel. See **Figure 7** below. Do not attempt to remove individual LEDs. In the case of a malfunctioning board, replace the entire digit panel.

To remove a scoreboard digit, follow these steps:

1. Open the digit panel as described in the preceding section.
2. Disconnect the power/signal connector from the back of the digit. Release the connector by squeezing together the locking tabs as you pull the connector free.
3. The digits are secured to the inside of the panel with fixed machine screws, spacers, and push nuts. Remove the nuts and lift the digit off the standoff screws. (The push nuts can be removed in several ways, but Daktronics recommends using a $^{9}/_{32}$" nut driver.)
4. Position a new digit over the screws and tighten the nuts.
5. Reconnect the power/signal connector.

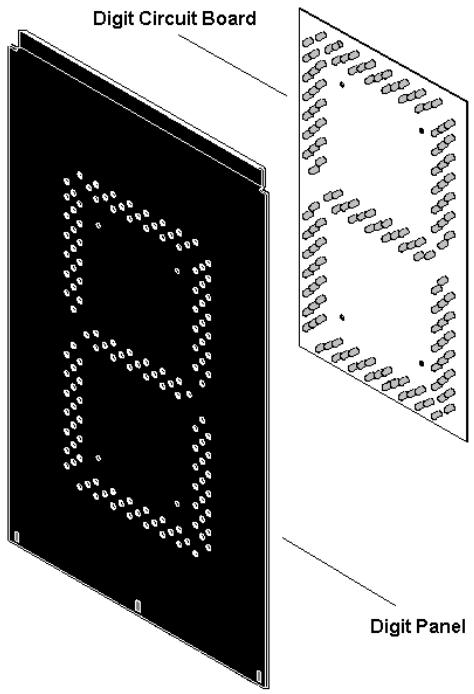


Figure 7: *Digit Assembly*

Note: This is a keyed connector B it will attach in one way only. Do not attempt to force the connection!

6. Close and secure the digit panel and test the scoreboard.

Replacing a Driver

Drivers are typically mounted inside the scoreboard and immediately behind a digit, but location and mounting varies with the model of the scoreboard. Refer to the component locations drawings in **Section 5.2** for the location of your scoreboard driver. All scoreboards in this manual are front-accessible.

Each driver is enclosed with a transformer and signal terminal block. Before a failed driver can be reached, the enclosure must be accessed. Follow these steps:

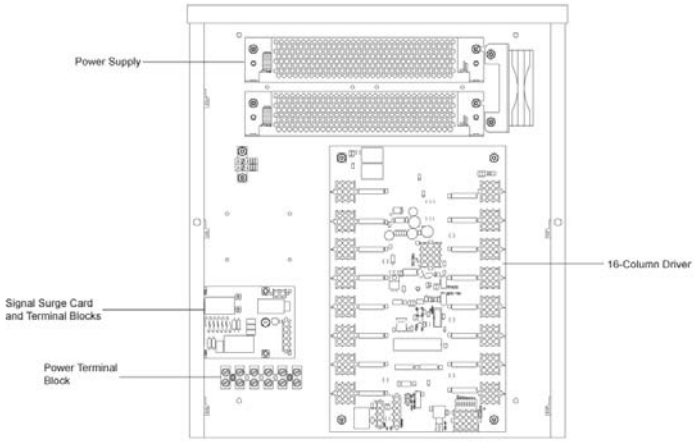


Figure 8: *16-column driver enclosure*

1. Open the digit panel or scoreboard face panel as described in the previous sections.
2. Remove the cover from the driver enclosure.
3. Disconnect all connectors from the driver. Release each connector by squeezing together the locking tabs as you pull the connector free.

   Note: When reconnecting, remember that these are keyed connectors and will attach in one way only. Do not attempt to force the connections.

4. Remove the screws, nuts, or wing nuts securing the driver to the inside of the enclosure.
5. Carefully lift the driver from the display and place it on a clean, flat surface.
6. Follow steps 1 through 5 in reverse order to attach a new driver.

5.3 Schematic

Reference Drawings:

Schematic; DistaView OD LED Multi-driver Display....**Drawing A-229706**
Schematic; XFMR 8 Col, GEN IV, DistaView LED.....**Drawing A-285892**
Schematic; XFMR 16 Col, GEN IV, DistaView LED....**Drawing A-286657**
Schematic; XFMR 16 Col, GEN IV, Outdoor Driver ...**Drawing A-704861**

Drawing A-285892 is the schematic diagram for the 8-column driver and **Drawing A-286657** and **A-704861** is the schematic diagram for the 16-column driver used in Daktronics outdoor DistaView scoreboards. **Drawing A-229706** shows the schematic diagram for multi-driver displays. The schematics include power and signal inputs and all wiring for the models described in this manual.

5.4 LED Drivers

In the scoreboard, the LED drivers perform the task of switching digits on and off. Refer to **Drawings A-178197** and **A-178235**. Each driver has up to19 connectors providing power and signal inputs to the circuit and outputs to the digits and indicators. The connectors function as follows:

8-Column LED Driver	
Connector No.	*Function*
1 – 8	Output to digits and indicators
17	Controls power/signal

16-Column LED Driver	
Connector No.	*Function*
1 – 16	Output to digits and indicators
17	Controls power/signal

Output connectors 1 through 16 each have nine pins. Pin 7 provides power (hot) to the digit or indicators wired to that connector. The other eight pins provide switching connections.

For the scoreboard to receive signal and function properly, the driver must be set to the correct address. This address is set with jumper wires in a 12-pin plug which mates with a jack on the driver.

Address settings can be configured by using the SI dip switch. See **Drawing A-290261** for more information.

5.5 Segmentation and Digit Designation

Reference Drawing:

Segmentation, 7 Segment Bar Digit .....**Drawing A-38532**

In each digit, certain LEDs always go on and off together. These groupings of LEDs are referred to as *segments.* **Drawing A-38532** illustrates digit segmentation. It also details which connector pin is wired to each digit segment and the wiring color code used throughout the display.

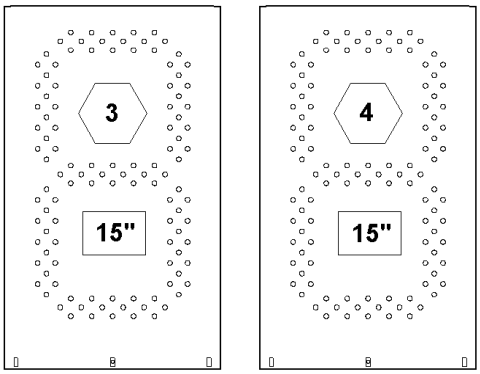


Figure 9: *Digit Designation*

The component locations drawings in **Section 5.2** specify the driver connectors controlling the digits. Numbers displayed in hexagons in the upper half of each digit, as shown in **Figure 9**, indicate which connector is wired to that digit. (The lower number in the square indicates nominal digit size.)

5.6 Lightning Protection

The use of a disconnect near the scoreboard to completely cut all current-carrying lines significantly protects the circuits against lightning damage. The National Electrical Code also requires the disconnect. In order for this system to provide protection, the power *must* be disconnected when the scoreboard is not in use. The control console should also be disconnected from power and from the signal junction box when the system is not in use. The same surges that may damage the scoreboard's driver can also damage the console's circuit.

5.7 Replacement Parts

Refer to the following table for Daktronics scoreboard replacement parts.

Description	Daktronics Part No.
LED Indicator, BALL, STRIKE, OUT, H/E	0P-1192-0292
18" LED Digit	0P-1192-0291
8 Column Driver	0P-1192-0392
16 Column Driver	0P-1192-0384
Transformer	T-1066

Description	Daktronics Part No.
15" LED Digit	0P-1192-0308
18" LED Ones Digit	0P-1192-0304
24" LED Horizontal Segment	0P-1192-0305
24" LED Vertical Segments	0P-1192-0306

5.8 Troubleshooting

This section lists potential problems with the scoreboard and indicates possible causes and corrective actions. This list does not include every possible problem, but does represent some of the more common situations that may occur.

Symptom/Condition	Possible Cause
Scoreboard will not light	■ Console not connected or poor connection ■ No power to control console ■ No power to the scoreboard
Garbled display	■ Internal driver logic malfunction ■ Control console malfunction
Digit will not light	■ Black wire to digit broken ■ Poor contact at driver connection. ■ Driver malfunction
Segment will not light	■ Broken LED or connection ■ Driver shift register failure ■ Broken wire between driver and digit ■ Poor contact at driver connector
Segment stays lit	■ Driver shift register failure ■ Short circuit on digit
Date appears in the wrong place on the scoreboard	■ Incorrect address settings on drivers (consult tables and set correct addresses)

5.9 Daktronics Exchange and Repair and Return Programs

To serve customers' repair and maintenance needs, Daktronics offers both an Exchange Program and a Repair and Return Program.

Exchange Program

Daktronics unique Exchange Program is a quick, economical service for replacing key parts in need of repair. If a part requires repair or replacement, Daktronics sends the customer a replacement, and the customer sends the problem part to Daktronics. This not only saves money, but also decreases display downtime.

To participate in the Exchange Program, follow these steps.

1. **Call the Daktronics Customer Service:**
   877-605-1115 (toll-free) or 605-697-4036**.** Choose option 2 to have a Customer Service Coordinator order a new part.

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

3. **You will be billed for the replacement part immediately, unless you have a qualifying service agreement in place.**
   In most circumstances, you will be invoiced for the replacement part at the time it is shipped. This bill, which represents the exchange price, is due when you receive it.

4. **You must send the problem part to Daktronics within 30 days.**
   If you do not ship it to Daktronics within 30 working days from the invoice date, Daktronics assumes you are purchasing the replacement part outright with no exchange. You will therefore be invoiced for the replacement part at the full purchase price, with the balance due upon receipt. The second invoice represents the difference between the exchange price (billed previously) and the full purchase price of the part. If you return the exchange equipment after 30 working days from the invoice date, you will be credited for the amount on the second invoice, minus a restocking fee.

   Note: Second invoice policies also apply to customers with qualifying service agreements in place. **To avoid a restocking charge, return the part, which has been replaced within 30 days of the invoice date.**

5. **If the replacement part does not solve the problem, return the part within 30 working days or you will be billed for it at full purchase price.**
   If, after you make the exchange, the equipment still causes problems, please contact our Customer Service immediately. Daktronics expects *immediate return* of an exchange part if it does not solve the problem. The company also reserves the right to refuse parts that have been damaged due to acts of nature or causes other than normal wear and tear.

To send a part for repair, follow these steps.

1. **Call Daktronics Customer Service:** 877-605-1115 (toll-free) or 605-697-4036.

2. **Receive a Return Materials Authorization (RMA) number before shipping.** This expedites repair of your 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 anti-static bag before boxing.

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

How to reach us

Mail: Customer Service, Daktronics Inc.
PO Box 5128
331 32nd Ave
Brookings, SD 57006

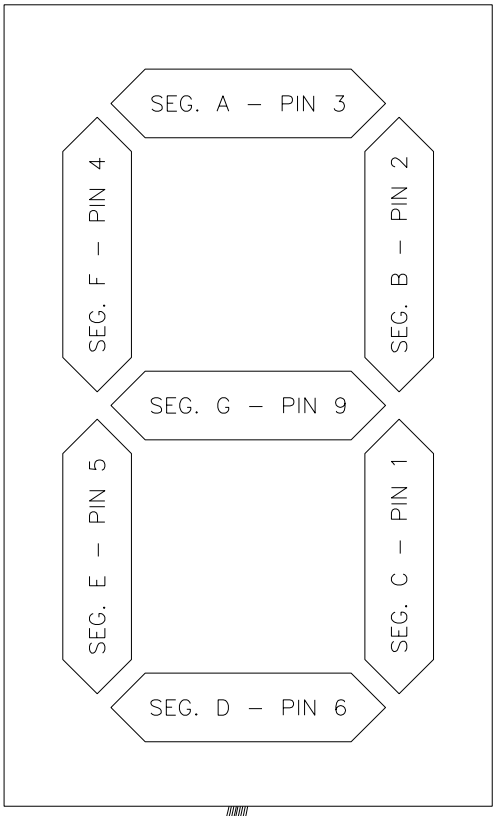
Phone: Daktronics Customer Service:
877-605-1115 (toll-free) or 605-697-4036

Daktronics Warranty and Limitation of Liability

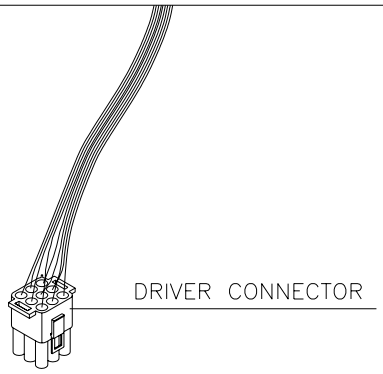
The Daktronics Warranty and Limitation of Liability is located in Appendix X. The Warranty is independent of Extended Service agreements and is the authority in matters of service, repair, and display operation.

Appendix A: Reference Drawings

Schematic; XFMR 8 Col, GEN IV, DistaView LED ..... **Drawing A-285892**
Schematic; XFMR 16 Col, GEN IV, DistaView LED ..... **Drawing A-286657**
Address Table 1; GEN IV Driver Address Dip Switch ..... **Drawing A-290261**
Schematic; XFMR 16 Col, GEN IV, Outdoor Driver ..... **Drawing A-704861**

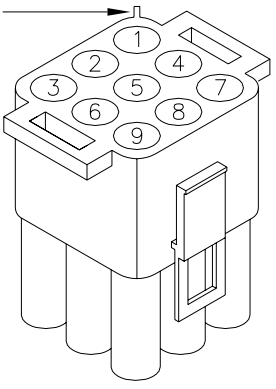


7 SEGMENT BAR DIGIT
FRONT VIEW



COLOR CODE		
PIN NO.	WIRE COLOR	DRIVER SEGMENT
1	ORN	C
2	RED	B
3	BRN	A
4	BLU	F
5	PNK	E
6	TAN	D
7	BLK	COM.
8	GRY	H
9	VIO	G

CONNECTOR PIN NUMBERING
NOTE SPLINE NEAR NO. 1



NOTE: "H" SEGMENT, GRAY WIRE IS NOT USED ON 7 SEGMENT BAR DIGIT.

REV.	DATE	DESCRIPTION	BY	APPR.
2	30 APR 97	ADDED SEGMENT DESIGNATIONS TO DIGIT FIGURE.	AVB	AVB
1	2 JAN 92	CHANGED FROM B-SIZE TO A-SIZE DWG.	C FICK	

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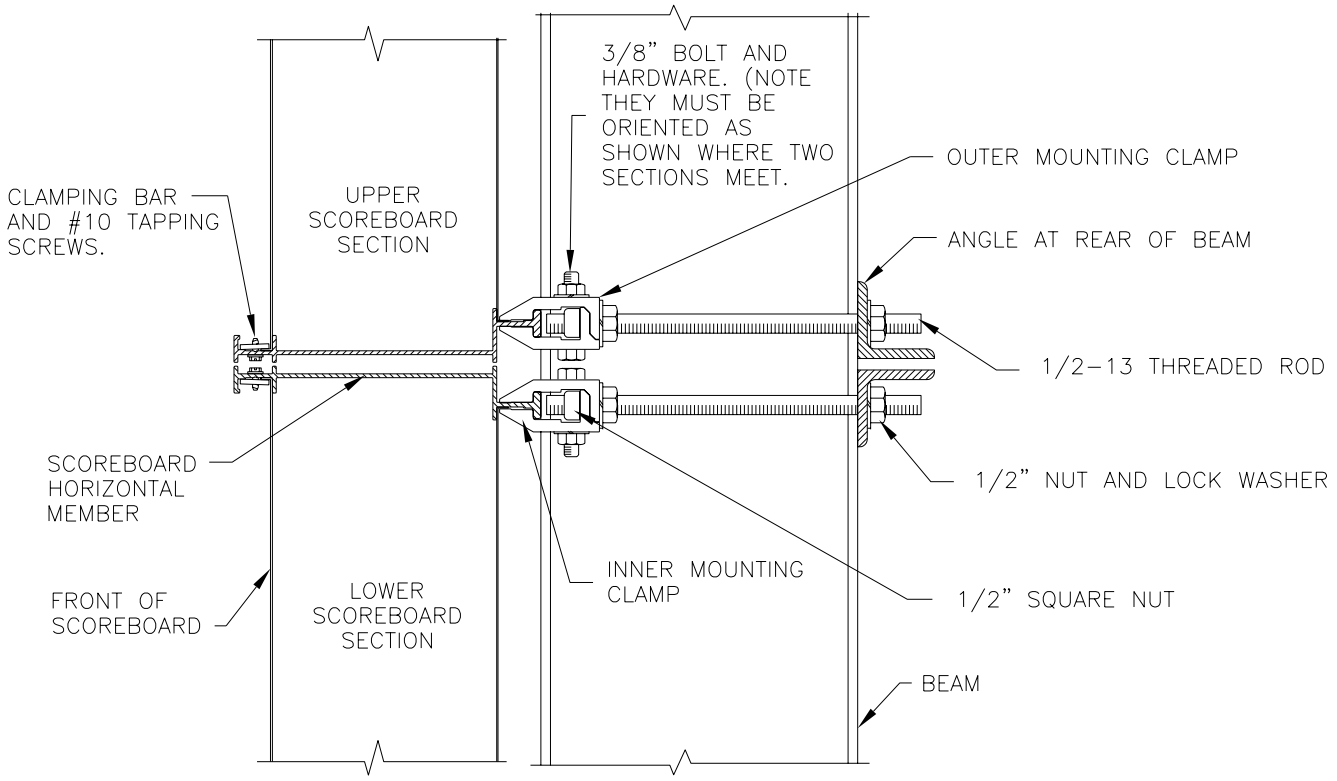
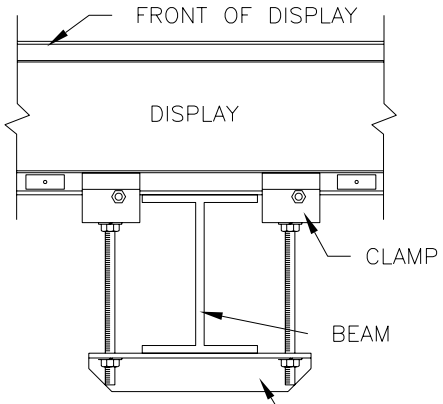
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: BASKETBALL
TITLE: SEGMENTATION, 7 SEGMENT BAR DIGIT
DES. BY: DRAWN BY: HEIDERSCHEIDT DATE: 5 JUN 89
REVISION 02
APPR. BY: AVB
SCALE: 1=4
1009-R04A-38532

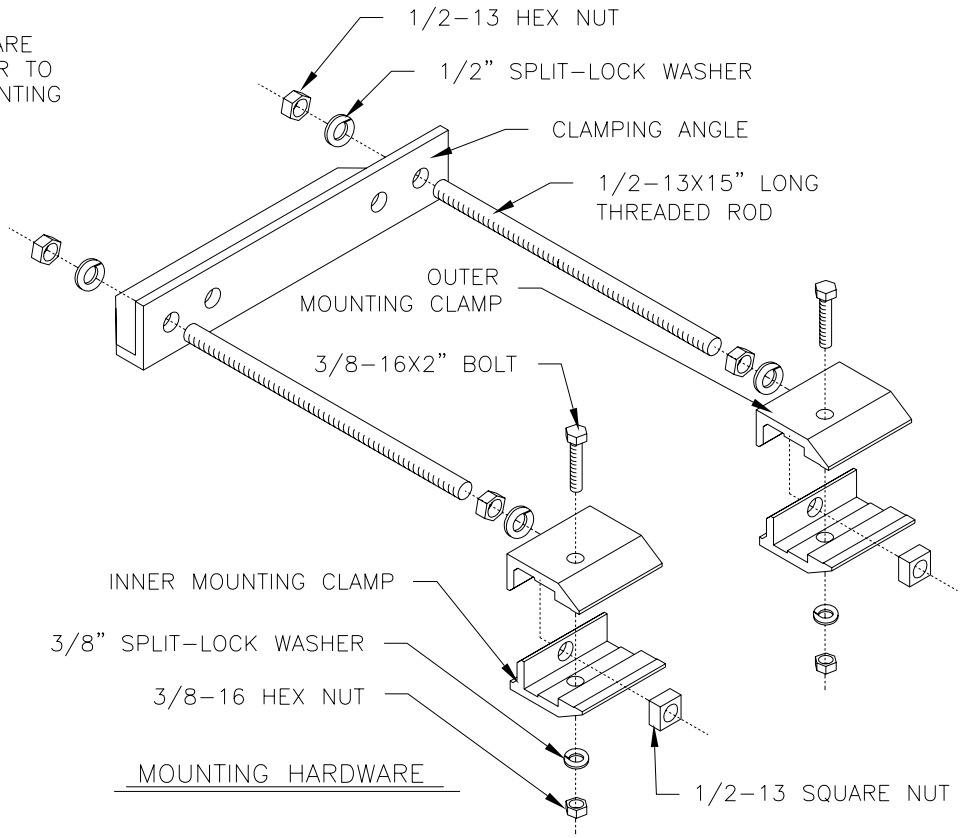


SIDE VIEW

NOTE: CLAMPING BARS AND HARDWARE MAY HAVE TO BE REMOVED IN ORDER TO INSTALL THE INNER AND OUTER MOUNTING CLAMPS.



TOP VIEW
1=10



MOUNTING HARDWARE

- THREADED RODS RUN ALONG BOTH SIDES OF BEAM.
- THEY DO NOT PASS THROUGH THE FLANGES OF THE BEAM.
- NO DRILLING IS NECESSARY.

REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006

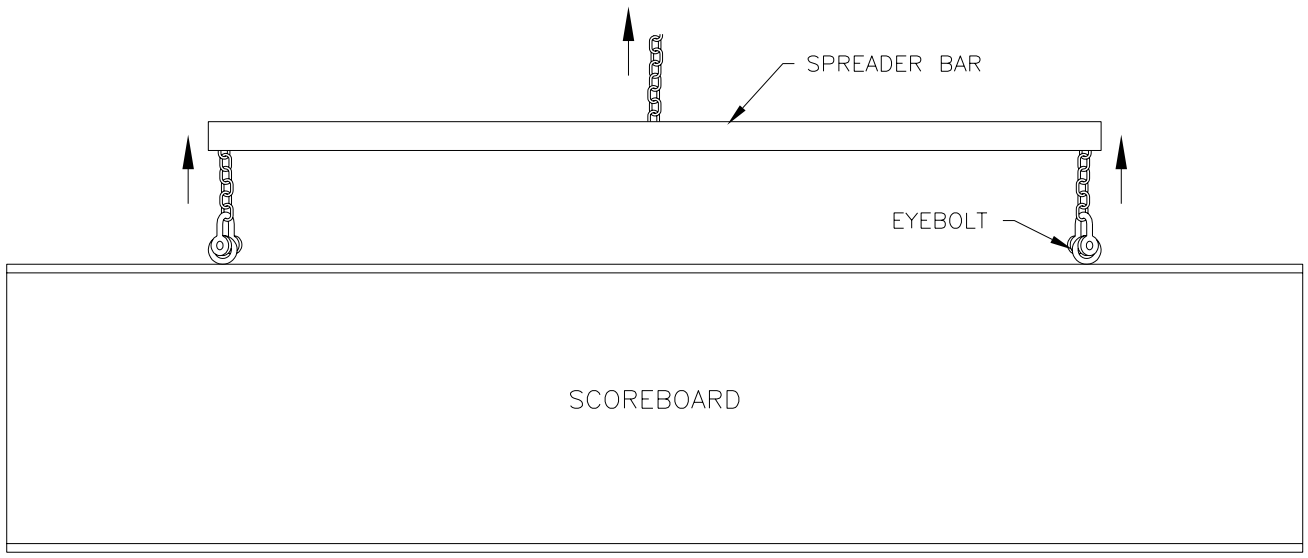
PROJ: OUTDOOR SCOREBOARDS

TITLE: DISPLAY MOUNTING

DES. BY: JHEIDER DRAWN BY: JHEIDER DATE: 29 AUG 90

REVISION 00 | APPR. BY: | SCALE: 1=5

1091-R10A-44412

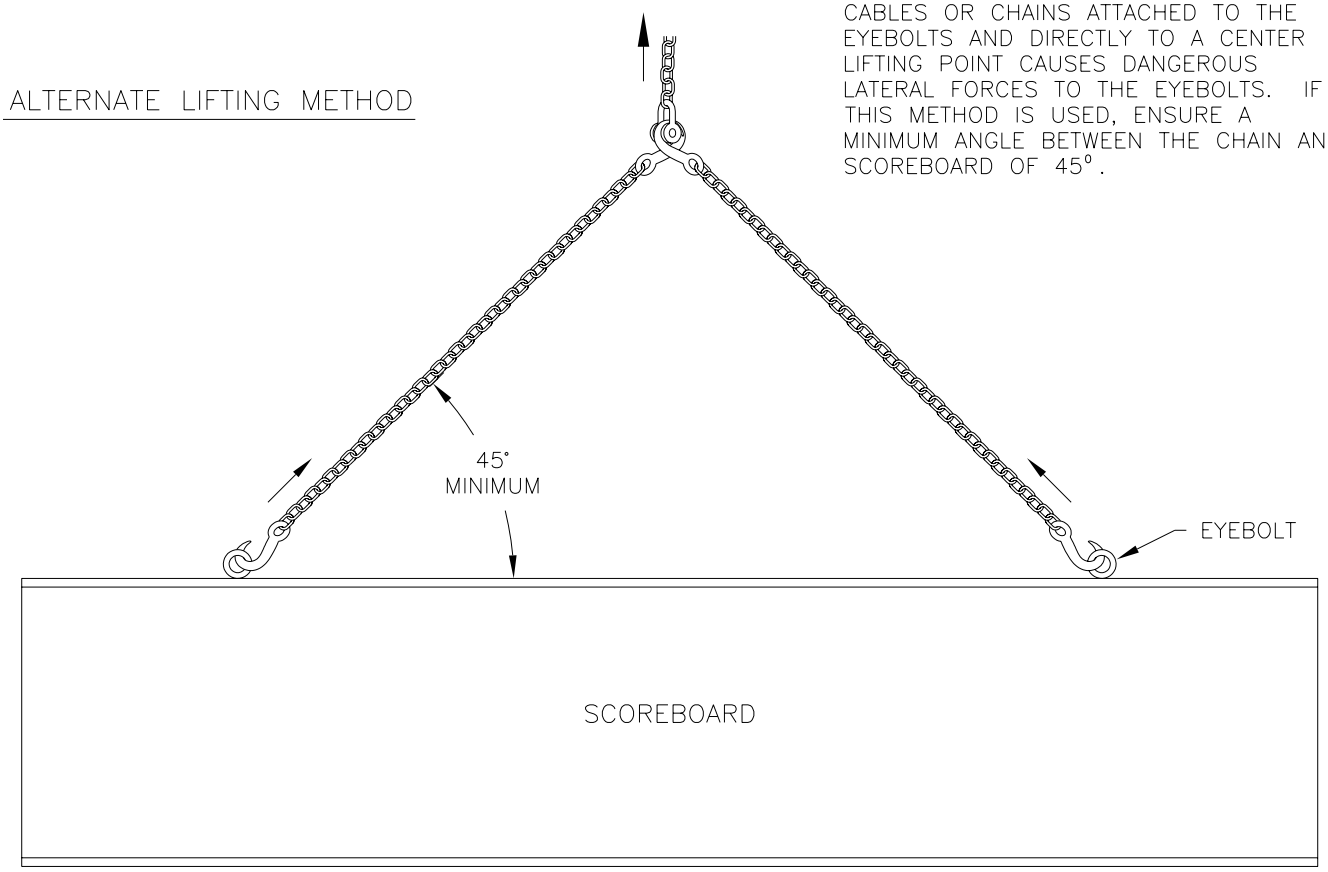


PREFERRED LIFTING METHOD

USE A SPREADER BAR SO THAT THE FORCE ON THE EYEBOLTS IS STRAIGHT UP.

ALTERNATE LIFTING METHOD

CABLES OR CHAINS ATTACHED TO THE EYEBOLTS AND DIRECTLY TO A CENTER LIFTING POINT CAUSES DANGEROUS LATERAL FORCES TO THE EYEBOLTS. IF THIS METHOD IS USED, ENSURE A MINIMUM ANGLE BETWEEN THE CHAIN AND SCOREBOARD OF 45°.



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DAKTRONICS, INC. BROOKINGS, SD 57006

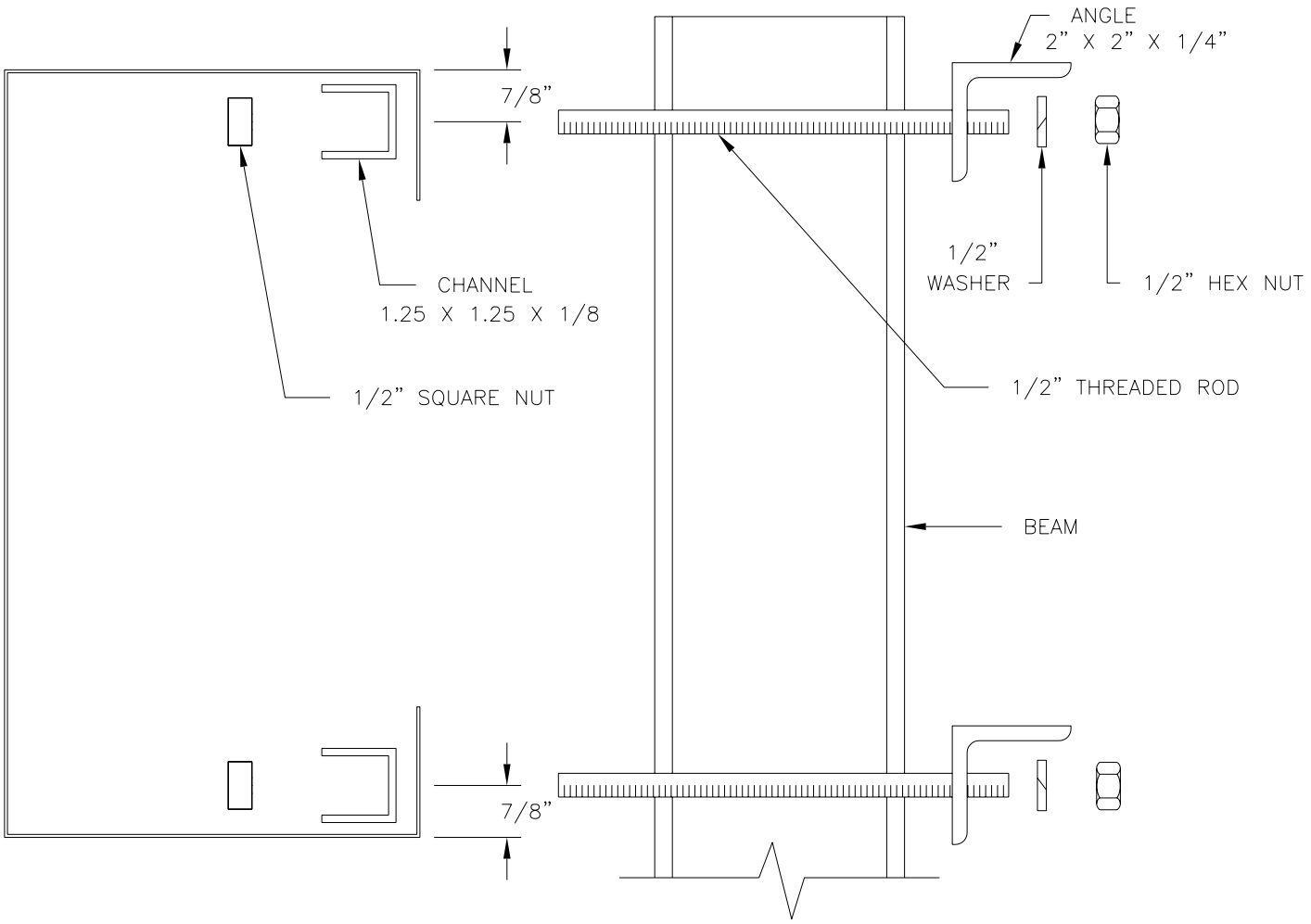
PROJ: OUTDOOR SCOREBOARDS

TITLE: LIFTING SCOREBOARD

DES. BY: DRAWN BY: AVB DATE: 12SEP90

REVISION 01 | APPR. BY: | SCALE: NONE | 1091-R10A-44548

REV.	DATE	DESCRIPTION	BY	APPR.
01	17 MAY 01	ADDED MINIMUM ANGLE TO ALTERNATE LIFTING METHOD; CHANGED CORRECT TO PREFERRED METHOD AND WRONG TO ALTERNATE METHOD	TWEBER	



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	DESCRIPTION	BY	APPR.
2	13AUG97	INCLUDED INSTRUCTIONS FOR AD PANELS WITH BACKSHEETS.	JAA	
1	26MAY93	ADDED DESCRIPTION TEXT TO PARTS.	MGG	

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR SCOREBOARDS

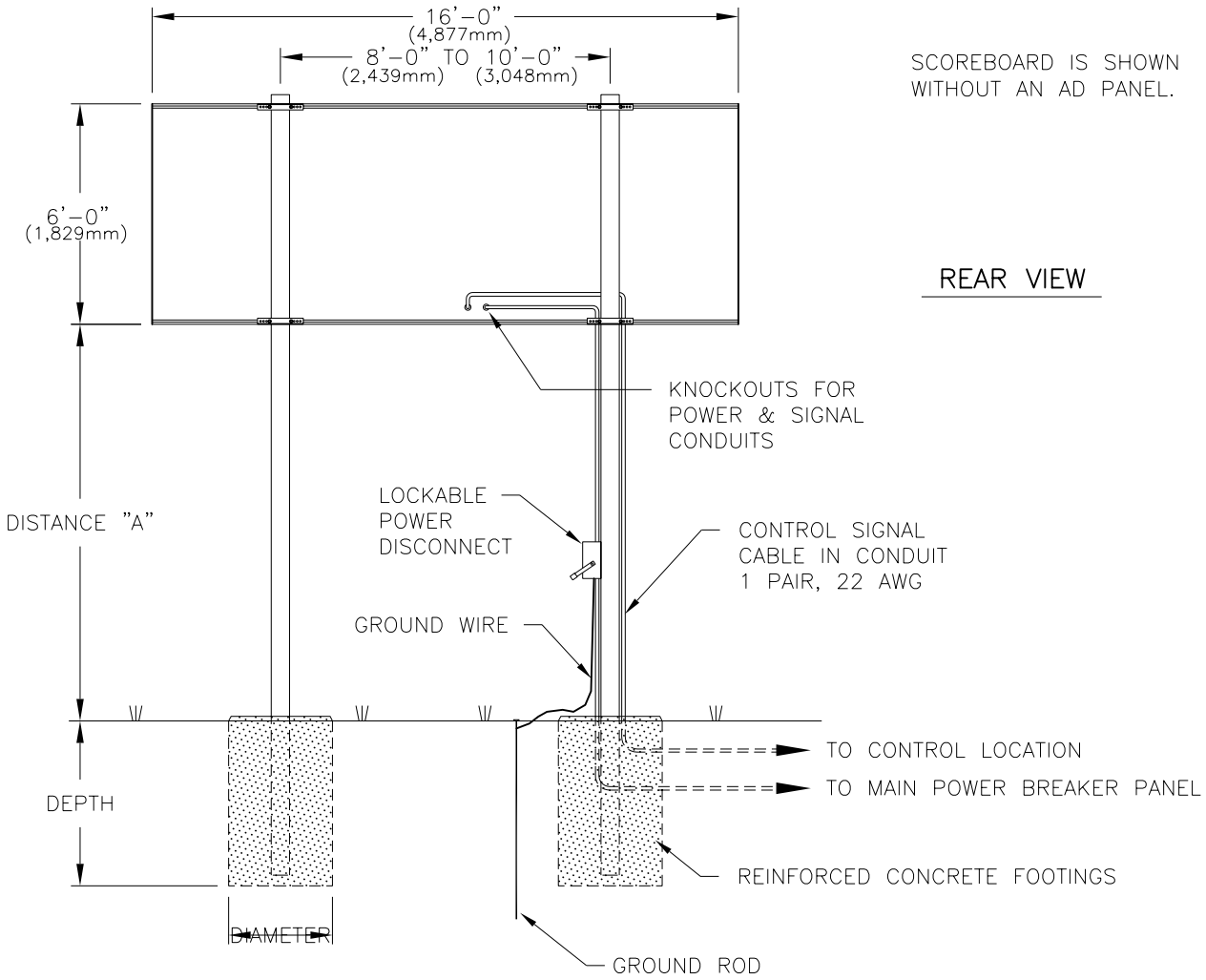
TITLE: AD PANEL MOUNTING

DES. BY: . DRAWN BY: MGUNDERSON DATE: 09JUL92

REVISION APPR. BY:

SCALE: NONE

1091-R10A-52187



MODEL BA–624 & SO–2013 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'–0"	16'–0" x 6'–0"	BEAM	W5x19	W8x24	W8x28
		FOOTING	*3.0' x 4.8'*	*3.0' x 5.3'*	*3.0' x 6.2'*
12'–0"	16'–0" x 6'–0"	BEAM	W8x24	W8x28	W8x31
		FOOTING	*3.0' x 5.0'*	*3.0' x 5.6'*	*3.0' x 6.5'*
14'–0"	16'–0" x 6'–0"	BEAM	W8x28	W8x31	W8x35
		FOOTING	*3.0' x 5.3'*	*3.0' x 5.8'*	*3.0' x 6.8'*

MODEL BA–624 & SO–2013 WITH 30"–HIGH AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'–0"	16'–0" x 8'–6"	BEAM	W8x28	W8x31	W8x35
		FOOTING	*3.0' x 5.5'*	*3.0' x 6.1'*	*3.0' x 7.2'*
12'–0"	16'–0" x 8'–6"	BEAM	W8x31	W10x33	W8x40
		FOOTING	*3.0' x 5.8'*	*3.0' x 6.4'*	*3.0' x 7.5'*
14'–0"	16'–0" x 8'–6"	BEAM	W10x33	W10x39	W8x48
		FOOTING	*3.0' x 6.1'*	*3.0' x 6.7'*	*3.0' x 7.9'*

FOOTING = DIAMETER X DEPTH

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT ^{2}

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

REV.	DATE	DESCRIPTION	BY	APPR.
04	24 OCT 07	ADDED MILLIMETERS DIMENSIONS	KDD	
03	21 SEPT 04	ADDED MODEL SO–2013	CAC	
2	19DEC00	REVISED COLUMN SECTIONS & FOOTINGS.	MVD	
1	25NOV97	REPLACED BA–624L WITH BA–624.	TWEBER	

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR SCOREBOARDS

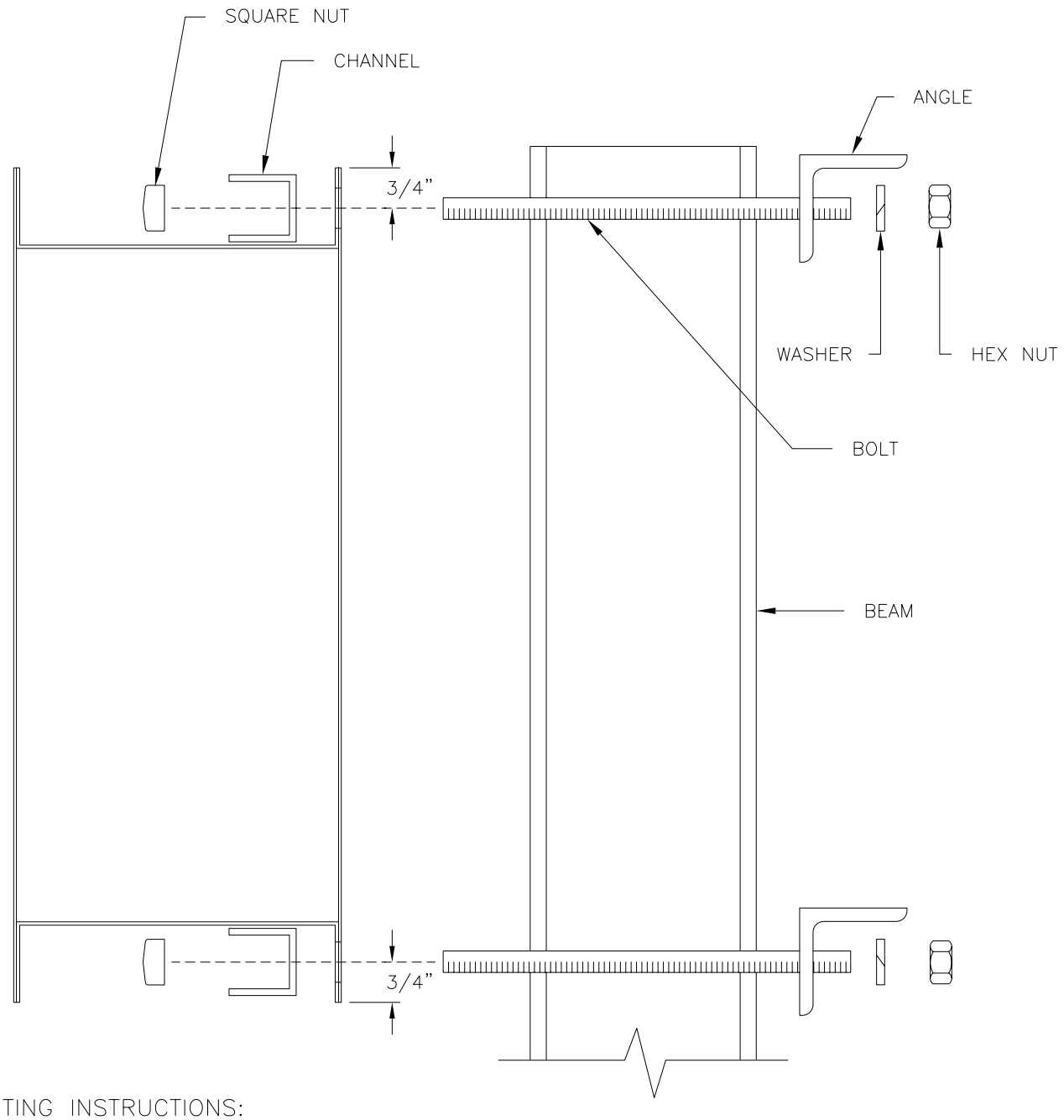
TITLE: INSTALLATION SPECIFICATIONS, BA–624 & SO–2013

DES. BY: AVB DRAWN BY: A VANBEMMEL DATE: 15FEB93

REVISION 04 APPR. BY:

SCALE: 1=60

1091-R10A-55007



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 SCOREBOARD 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.

REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR SCOREBOARDS

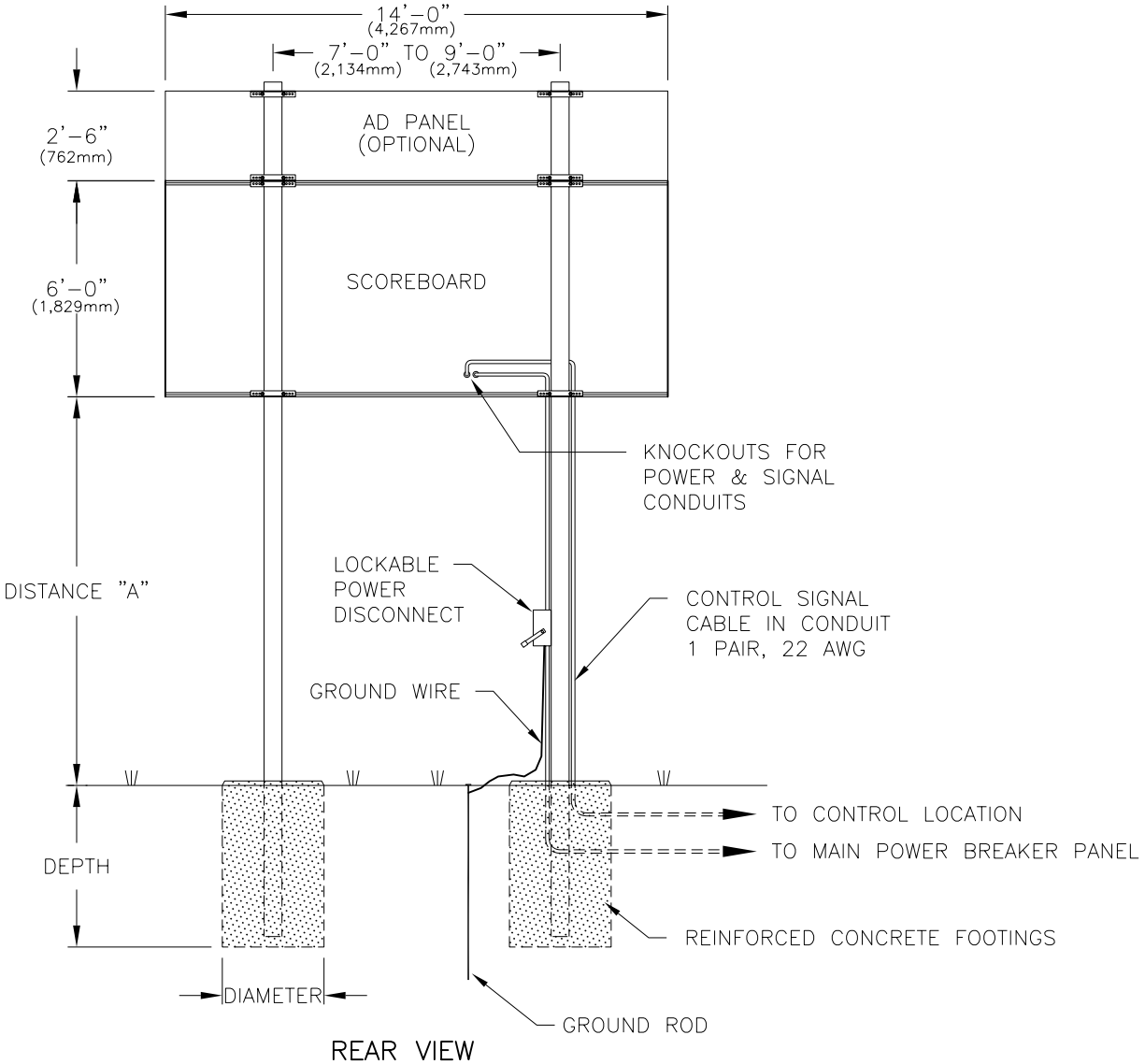
TITLE: SCOREBOARD MOUNTING

DES. BY: DRAWN BY: A VANBEMMEL DATE: 10FEB93

REVISION APPR. BY:

SCALE: NONE

1091-R10A-55101



REAR VIEW

MODEL BA–1018 OR BA–2016 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'–0"	14'–0" x 6'–0"	BEAM	W5x19	W6x20	W8x28
		FOOTING	*3.0' x 4.6'*	*3.0' x 5.0'*	*3.0' x 5.9'*
12'–0"	14'–0" x 6'–0"	BEAM	W8x24	W8x24	W8x31
		FOOTING	*3.0' x 4.8'*	*3.0' x 5.3'*	*3.0' x 6.3'*
14'–0"	14'–0" x 6'–0"	BEAM	W8x24	W8x28	W8x35
		FOOTING	*3.0' x 5.0'*	*3.0' x 5.5'*	*3.0' x 6.5'*

MODEL BA–1018 OR BA–2016 WITH 30"–HIGH AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'–0"	14'–0" x 8'–6"	BEAM	W8x24	W8x28	W8x35
		FOOTING	*3.0' x 5.3'*	*3.0' x 5.8'*	*3.0' x 6.9'*
12'–0"	14'–0" x 8'–6"	BEAM	W8x28	W8x31	W10x39
		FOOTING	*3.0' x 5.6'*	*3.0' x 6.1'*	*3.0' x 7.2'*
14'–0"	14'–0" x 8'–6"	BEAM	W8x31	W8x35	W12x45
		FOOTING	*3.0' x 5.8'*	*3.0' x 6.4'*	*3.0' x 7.5'*

FOOTING = DIAMETER X DEPTH

FOOTING DIMENSIONS ARE **SUGGESTIONS** ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT ^{2}

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED OR INSTALLED BY OTHERS.

02	20DEC00	REVISED COLUMN SECTIONS & FOOTINGS	MVD	
01	21MAR94	CORRECTED DISPLAY HEIGHT ON FIGURE.	AVB	AVB

REV.	DATE	DESCRIPTION	BY	APPR.
06	25 OCT 07	ADDED MILLIMETERS DIMENSIONS	KDD	
05	27 JAN 06	ADDED 30" TALL AD PANEL TO REAR VIEW.	KJB	
04	21 APR 05	ADDED BA–2016, BA–2017 TO DWG TITLE	MPM	
03	05MAY04	ADDED MODEL BA–2016	MCOPL	

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DAKTRONICS, INC. BROOKINGS, SD 57006

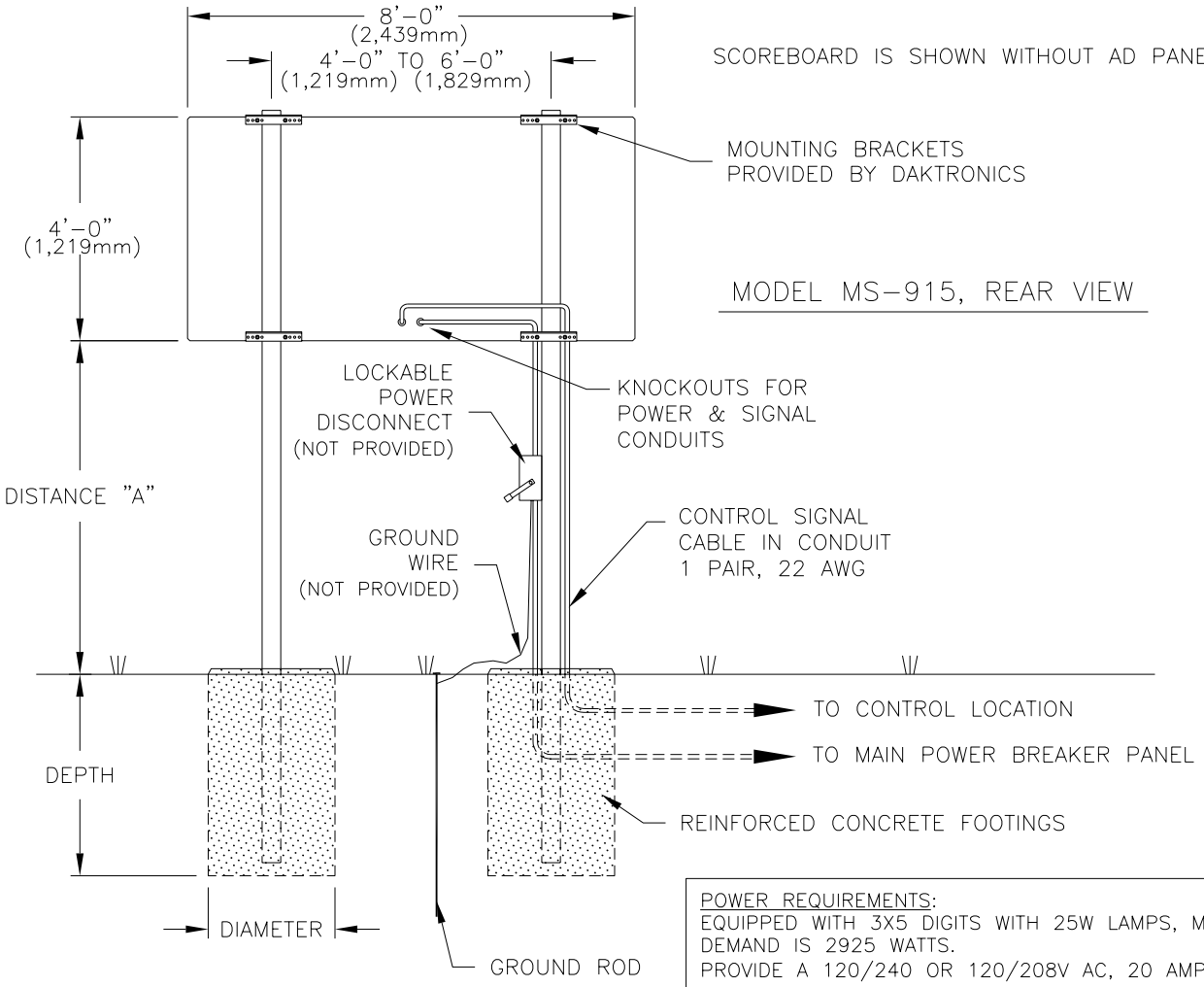
PROJ: OUTDOOR SCOREBOARDS

TITLE: INSTALLATION SPEC, BA–1018, BA–2016, BA–2017

DES. BY: AVB DRAWN BY: A VANBEMMEL DATE: 17MAR94

REVISION 06 APPR. BY: SCALE: 1=60

1091-R10A-61904



POWER REQUIREMENTS:
EQUIPPED WITH 3X5 DIGITS WITH 25W LAMPS, MAX POWER DEMAND IS 2925 WATTS.
PROVIDE A 120/240 OR 120/208V AC, 20 AMP CIRCUIT.

SIGNAL: 1 SHIELDED PAIR, 22 AWG MIN.

MODEL MS–915 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			60 MPH	80 MPH	100 MPH
10'–0"	8'–0" x 4'–0"	BEAM *FOOTING*	W6x12 *1.5' x 3.5'*	W6x12 *1.5' x 4.75'*	W6x12 *2' x 5'*
12'–0"	8'–0" x 4'–0"	BEAM *FOOTING*	W6x12 *1.5' x 3.75'*	W6x12 *2' x 4.5'*	W6x12 *2' x 5.5'*
14'–0"	8'–0" x 4'–0"	BEAM *FOOTING*	W6x15.5 *1.5' x 4'*	W6x15.5 *2' x 4.75'*	W6x15.5 *2' x 6'*

MODEL MS–915 WITH 24"–HIGH HORIZONTAL AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			60 MPH	80 MPH	100 MPH
10'–0"	8'–0" x 6'–0"	BEAM *FOOTING*	W6x12 *1.5' x4'*	W6x12 *2' x 5'*	W8x15 *2' x 6'*
12'–0"	8'–0" x 6'–0"	BEAM *FOOTING*	W6x12 *1.5' x 4.5'*	W6x15.5 *2' x 5.25'*	W8x17 *2.5 x 6'*
14'–0"	8'–0" x 6'–0"	BEAM *FOOTING*	W6x15.5 *2' x 4.25'*	W6x15.5 *2' x 5.75'*	W8x20 *2.5' x 6.5'*

BEAM SPEC EXAMPLE: W6X12 MEANS WIDE–FLANGE I–BEAM 6" DEEP, 12 LB PER FOOT.
FOOTING = DIAMETER X DEPTH

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.
FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 3000 LB/SQ FT.
ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

REV.	DATE	DESCRIPTION	BY	APPR.
01	25 OCT 07	ADDED MILLIMETERS DIMENSIONS	KDD	

DAKTRONICS, INC. BROOKINGS, SD 57006

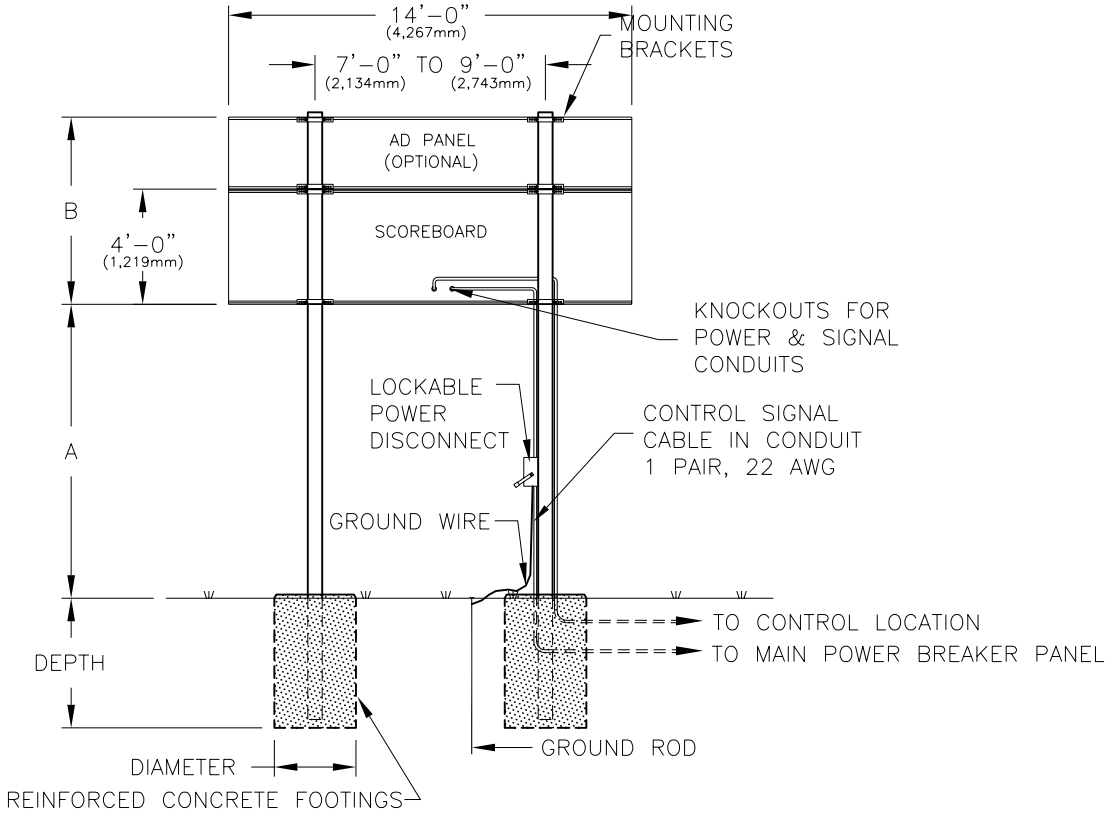
PROJ:

TITLE: INSTALLATION SPECIFICATIONS, MS–915

DES. BY: DRAWN BY: A VANBEMMEL DATE: 17 MAR 99

REVISION 01 | APPR. BY: | SCALE: 1=40

1091-R08A-113568



REAR VIEW

FB–824 & SO–824

ELECTRICAL

POWER CABLE MUST HAVE A SEPERATE GROUND CONDUCTOR. SCOREBOARD MUST BE CONNECTED TO A GROUND ROD AT SCOREBOARD LOCATION.

MODEL FB–824 & SO–824

VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY 70 MPH	80 MPH	100 MPH
10 FT	NONE	4'–0"	BEAM	W6x15	W6x15	W5x19
			FOOTING	*3.0'x3.9'*	*3.0'x4.3'*	*3.0'x5.1'*
	2 FT	6'–0"	BEAM	W5x19	W6x20	W8x28
			FOOTING	*3.0'x4.6'*	*3.0'x5.0'*	*3.0'x5.9'*
	4 FT	8'–0"	BEAM	W8x24	W8x28	W8x31
			FOOTING	*3.0'x5.2'*	*3.0'x5.7'*	*3.0'x6.7'*
12 FT	NONE	4'–0"	BEAM	W5x16	W5x19	W8x24
			FOOTING	*3.0'x4.1'*	*3.0'x4.5'*	*3.0'x5.3'*
	2 FT	6'–0"	BEAM	W8x24	W8x24	W8x31
			FOOTING	*3.0'x4.8'*	*3.0'x5.3'*	*3.0'x6.3'*
	4 FT	8'–0"	BEAM	W8x28	W8x31	W10x39
			FOOTING	*3.0'x5.4'*	*3.0'x5.9'*	*3.0'x7.0'*
14 FT	NONE	4'–0"	BEAM	W5x19	W8x24	W8x28
			FOOTING	*3.0'x4.4'*	*3.0'x4.8'*	*3.0'x5.7'*
	2 FT	6'–0"	BEAM	W8x24	W8x28	W8x35
			FOOTING	*3.0'x5.0'*	*3.0'x5.5'*	*3.0'x6.5'*
	4 FT	8'–0"	BEAM	W8x31	W8x35	W12x45
			FOOTING	*3.0'x5.7'*	*3.0'x6.2'*	*3.0'x7.3'*

FOOTING = DIAMETER X DEPTH

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS, AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

COLUMNS AND FOOTINGS MUST BE DESIGNED BY A STATE LICENCED ENGINEER. DAKTRONICS DOES NOT ASSUME ANY LIABILITY FOR ANY INSTALLATIONS DERIVED FROM THIS INFORMATION OR DESIGNED AND INSTALLED BY OTHERS.

A NOTE ABOUT BEAM NOMENCLATURE:

For a typical beam, W12x30 for example, "W" stands for "Wide–Flange Beam". The first number (12) is the approximate front to rear dimension of the beam in inches. The second number (30) is the weight per foot in pounds. This numbering is standard in the steel industry. Widths vary from 4 to 8 inches in this chart.

REV.	DATE	DESCRIPTION	BY	APPR.
02	25 OCT 07	ADDED MILLIMETERS DIMENSIONS	KDD	
1	20DEC00	REVISED COLUMN SECTIONS & FOOTINGS	MVD	

DAKTRONICS, INC. BROOKINGS, SD 57006

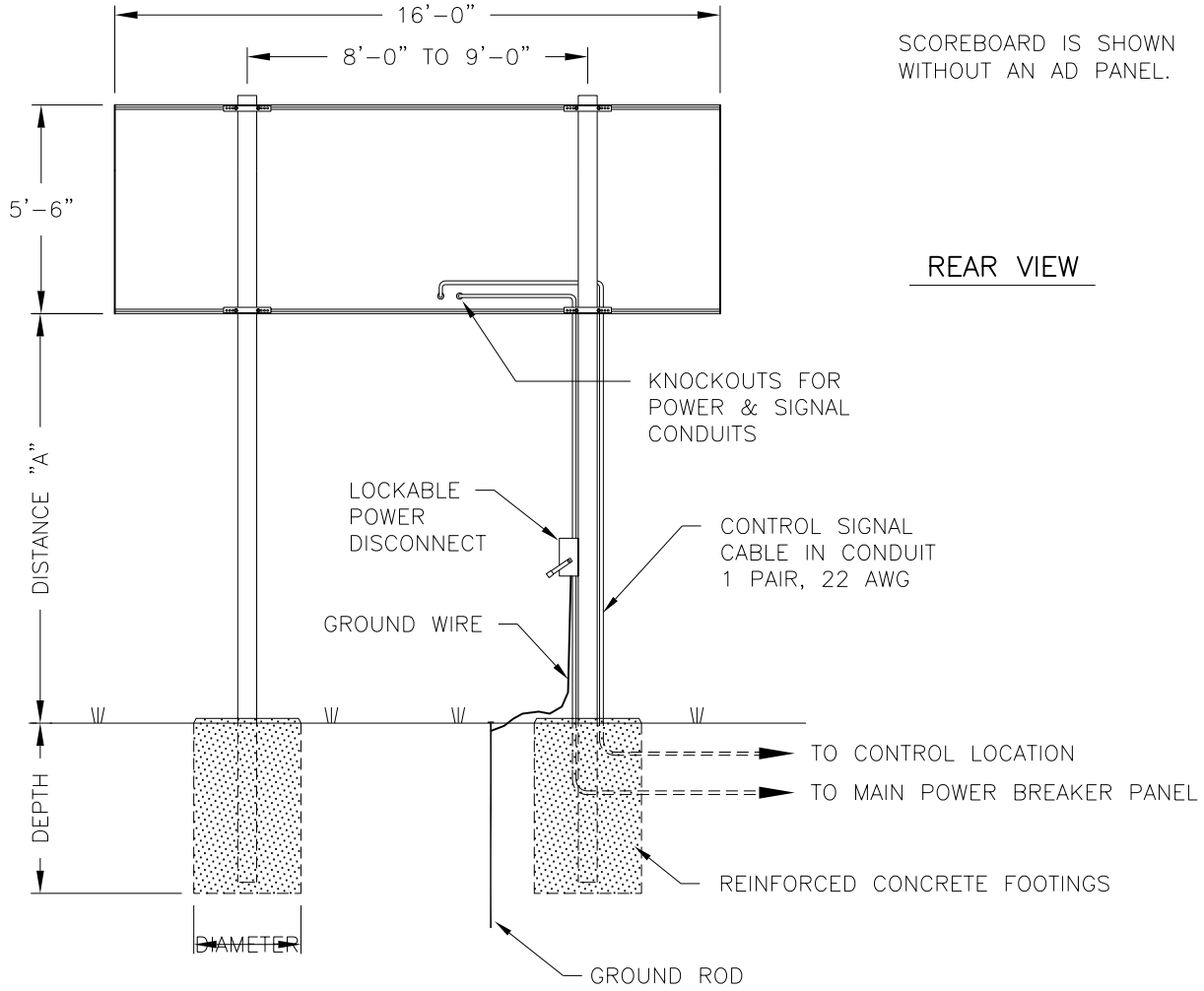
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

TITLE: INSTALLATION SPECIFICATIONS, FB–824 & SO–824

DES. BY: BPETERSON DRAWN BY: BPETERSON DATE: 02FEB00

REVISION 02 | APPR. BY: | SCALE: 1=80

1091-R10A-127287



MODEL SO–2008 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'–0"	16'–0" x 5'–6"	BEAM *FOOTING*	W6x15 *2.0' x 6.2'*	W8x18 *2.0' x 6.9'*	W8x18 *2.0' x 8.1'*
12'–0"	16'–0" x 5'–6"	BEAM *FOOTING*	W8x18 *2.0' x 6.5'*	W8x18 *2.0' x 7.2*	W10x22 *2.5' x 7.8'*
14'–0"	16'–0" x 5'–6"	BEAM *FOOTING*	W8x21 *2.0' x 7.4'*	W10x22 *2.5' x 7.5'*	W12x26 *2.5' x 8.9'*

MODEL SO–2008 WITH 30"–HIGH AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'–0"	16'–0" x 8'–6"	BEAM *FOOTING*	W8x18 *2.0' x 7.3'*	W8x21 *2.0' x 8.0'*	W12x26 *2.5' x 8.9'*
12'–0"	16'–0" x 8'–6"	BEAM *FOOTING*	W10x22 *2.5' x 7.0'*	W8x24 *2.5' x 7.7'*	W14x30 *2.5' x 9.1'*
14'–0"	16'–0" x 8'–6"	BEAM *FOOTING*	W8x24 *2.5' x 7.3'*	W12x26 *2.5' x 8.1'*	W10x33 *2.5' x 9.5'*

FOOTING = DIAMETER X DEPTH

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2 AND UBC WIND CODE.

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

REV.	DATE	DESCRIPTION	BY	APPR.
03	16 FEB 06	REMOVED 832–12 TNMC FROM DWG	BJC	
02	14JUN01	CHANGED 832–10 TNMC TO 832–12 TNMC	DUSWH	
01	06JUN01	ADDED TNMC CHANGED SPACING ON BEAMS FROM A MAX 10' TO A MAX 9' TO MAKE ROOM FOR TNMC	MCOPL	

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DAKTRONICS, INC. BROOKINGS, SD 57006

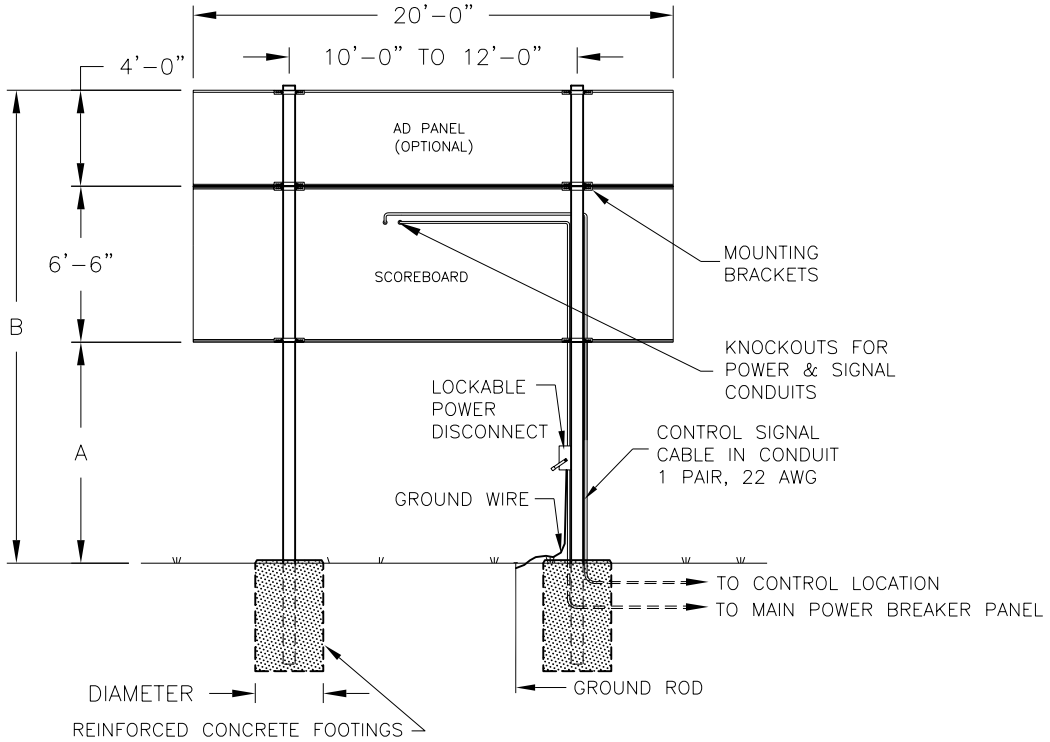
PROJ: OUTDOOR SCOREBOARDS

TITLE: INSTALLATION SPECIFICATIONS, SO–2008

DES. BY: RNEYENS DRAWN BY: DUSWH DATE: 5–17–01

REVISION 03 | APPR. BY: | SCALE: 1=60

1192-E07A-149074



REAR VIEW

ELECTRICAL

POWER CABLE MUST HAVE A
SEPERATE GROUND CONDUCTOR.
SCOREBOARD MUST BE CONNECTED
TO A GROUND ROD AT SCOREBOARD LOCATION.

BA-2004, BA-2005, BA-2011, & BA-2014

VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY 70 MPH	80 MPH	90 MPH	100 MPH
10 FT	NONE	16'-6"	BEAM	W8X18	W8X21	W10X22	W8X24
			FOOTING	*2.5'X6.6'*	*2.5'X7.3'*	*2.5'X8.0'*	*2.5'X8.7'*
	4 FT	20'-6"	BEAM	W12X26	W14X30	W10X33	W12X35
			FOOTING	*2.5'X8.2'*	*2.5'X9.1'*	*2.5'X9.9'*	*2.5'X10.8'*
12 FT	NONE	18'-6"	BEAM	W8X21	W10X22	W12X26	W12X26
			FOOTING	*2.5'X7.0'*	*2.5'X7.7'*	*2.5'X8.4'*	*2.5'X9.1'*
	4 FT	22'-6"	BEAM	W14X30	W10X33	W14X38	W12X40
			FOOTING	*3.0'X8.0'*	*3.0'X8.8'*	*3.0'X9.6'*	*3.0'X10.4'*
14 FT	NONE	20'-6"	BEAM	W10X22	W12X26	W12X26	W14X30
			FOOTING	*3.0'x6.8'*	*3.0'x7.5'*	*3.0'x8.2'*	*3.0'x8.8'*
	4 FT	24'-6"	BEAM	W10X33	W14X38	W12X40	W14X43
			FOOTING	*3.0'x8.3'*	*3.0'x9.1'*	*3.0'x10.0'*	*3.0'x10.8'*
16 FT	NONE	22'-6"	BEAM	W12X26	W14X30	W10X33	W12X35
			FOOTING	*3.0'x7.1'*	*3.0'x7.8'*	*3.0'x8.5'*	*3.0'x9.2'*
	4 FT	26'-6"	BEAM	W14X38	W12X46	W14X43	W14X48
			FOOTING	*3.0'x8.6'*	*3.0'X9.5'*	*3.0'x10.4'*	*3.0'x11.2'*
18FT	NONE	24'-6"	BEAM	W14X30	W10X33	W12X35	W16X40
			FOOTING	*3.0'x7.3'*	*3.0'x8.1'*	*3.0'x8.8'*	*3.0'x9.5'*
	4 FT	28'-6"	BEAM	W12X40	W14X43	W14X48	W14X53
			FOOTING	*3.0'x8.9'*	*3.0'x9.8'*	*3.0'x10.7'*	*3.0'x11.5'*
20 FT	NONE	26'-6"	BEAM	W10X33	W12X35	W16X40	W12X40
			FOOTING	*3.0'x7.6'*	*3.0'x8.4'*	*3.0'x9.1'*	*3.0'x9.9'*
	4 FT	30'-6"	BEAM	W12X40	W12X48	W14X53	W14X61
			FOOTING	*3.0'x9.2'*	*3.0'x10.1'*	*3.0'x11.0'*	*3.0'x11.9'*

FOOTING = DIAMETER X DEPTH

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS, AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

COLUMNS AND FOOTINGS MUST BE DESIGNED BY A STATE LICENCED ENGINEER. DAKTRONICS DOES NOT ASSUME ANY LIABILITY FOR ANY INSTALLATIONS DERIVED FROM THIS INFORMATION OR DESIGNED AND INSTALLED BY OTHERS.

A NOTE ABOUT BEAM NOMENCLATURE:

For a typical beam, W12x30 for example, "W" stands for "Wide-Flange Beam". The first number (12) is the approximate front to rear dimension of the beam in inches. The second number (30) is the weight per foot in pounds. This numbering is standard in the steel industry. Widths vary from 8 to 14 inches in this chart.

REV.	DATE	DESCRIPTION	BY	APPR.
04	30 JUL 07	ADDED BA-2014	KDD	
03	9 NOV 05	CHANGED POLE SPACING TO 10' - 12'	JKU	
02	15JAN03	ADDED BA-2011 IN TEXT	MCOPL	
01	08AUG01	ADDED BA-2005 IN TEXT	MCOPL	

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

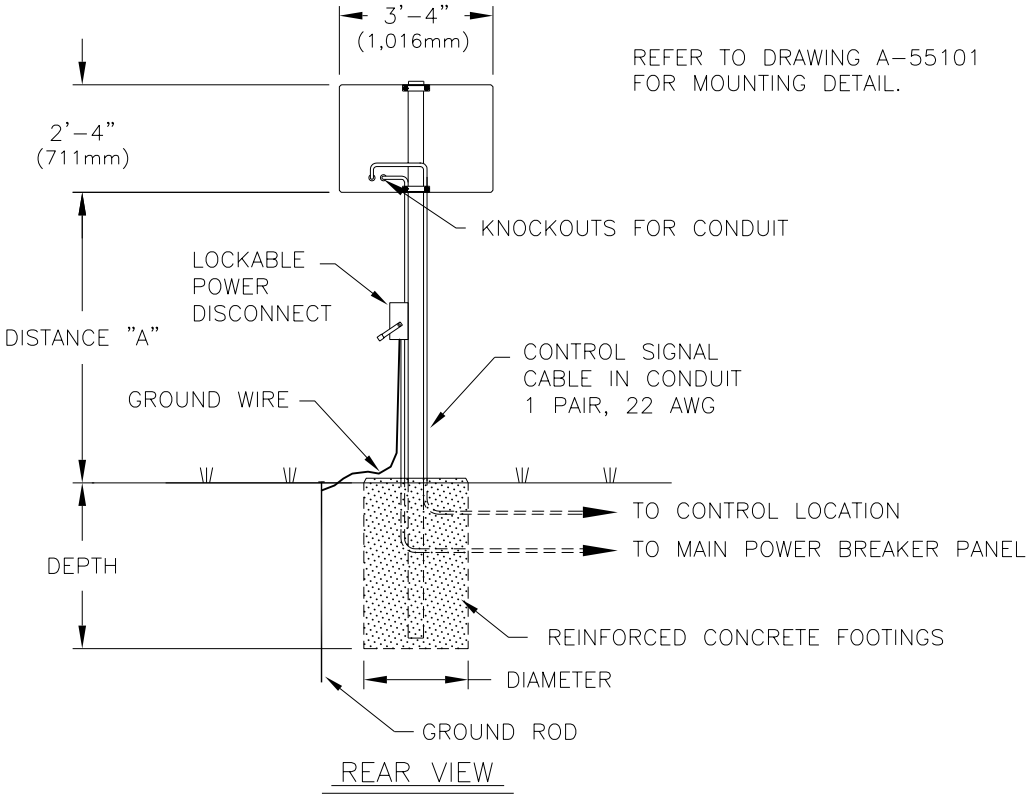
TITLE: INSTALLATION SPECIFICATIONS; BA-2004/2005/2011/2014

DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 23JULY01

REVISION 04 APPR. BY:

SCALE: 1=96

1091-R10A-152777



MODEL TI–2015					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'–0"	12'–4" x 3'–4"	BEAM *FOOTING*	TS4x4x3/16 2.0' x 4.0'	TS4x4x3/16 2.0' x 4.0'	TS4x4x3/16 2.0' x 4.5'
12'–0"	14'–4" x 3'–4"	BEAM *FOOTING*	TS4x4x3/16 2.0' x 4.0'	TS4x4x3/16 2.0' x 4.1'	TS4x4x3/16 2.0' x 4.8'
14'–0"	16'–4" x 3'–4"	BEAM *FOOTING*	TS4x4x3/16 2.0' x 4.0'	TS4x4x3/16 2.0' x 4.4'	TS4x4x3/16 2.0' x 5.2'

FOOTING = DIAMETER X DEPTH

DESIGN BASED ON UBC 97 BUILDING CODE.
BEAM IS ASSUMED TO BE A500–B STEEL (46ksi).

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED UBC SOIL CLASS 4 (LATERAL BEARING 150psf/ft x 2)

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

WIND DESIGN:
EXPOSURE C
I = 1.0
Cq = 1.4

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR SCOREBOARDS

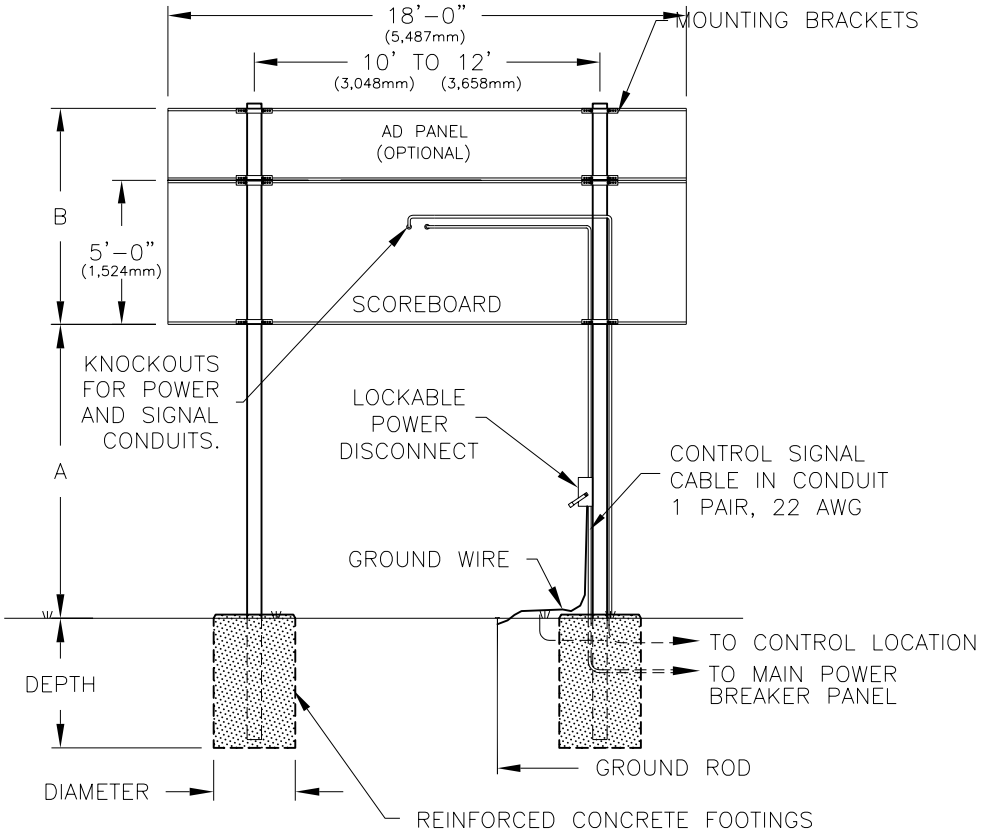
TITLE: INSTALLATION SPECS; TI–2015

DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 19MAR03

REVISION 01 | APPR. BY: | SCALE: 1=50

1091-E10A-173484

REV.	DATE	DESCRIPTION	BY	APPR.
01	25 OCT 07	ADDED MILLIMETERS DIMENSIONS	KDD	



MS–2004

REAR VIEW

MS–2004						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10 FT	NONE	5'–0"	BEAM	W6X15	W6X15	W8X18
			FOOTING	*2.0X5.4*	*2.0X5.9*	*2.5X6.4*
	2'–0"	7'–0"	BEAM	W8X18	W6X20	W8X24
			FOOTING	*2.5X5.7*	*2.5X6.3*	*2.5X7.4*
12 FT	NONE	5'–0"	BEAM	W6X15	W8X18	W10X22
			FOOTING	*2.5X5.2*	*2.5X5.7*	*2.5X6.8*
	2'–0"	7'–0"	BEAM	W6X20	W10X22	W12X26
			FOOTING	*2.5X5.9*	*2.5X6.5*	*2.5X7.7*
14 FT	NONE	5'–0"	BEAM	W8X18	W10X22	W8X24
			FOOTING	*2.5X5.5*	*2.5X6.0*	*2.5X7.1*
	2'–0"	7'–0"	BEAM	W8X24	W8X24	W8X31
			FOOTING	*2.5X6.2*	*2.5X6.9*	*2.5X8.1*

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

FOOTING = DIAMETER X DEPTH

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

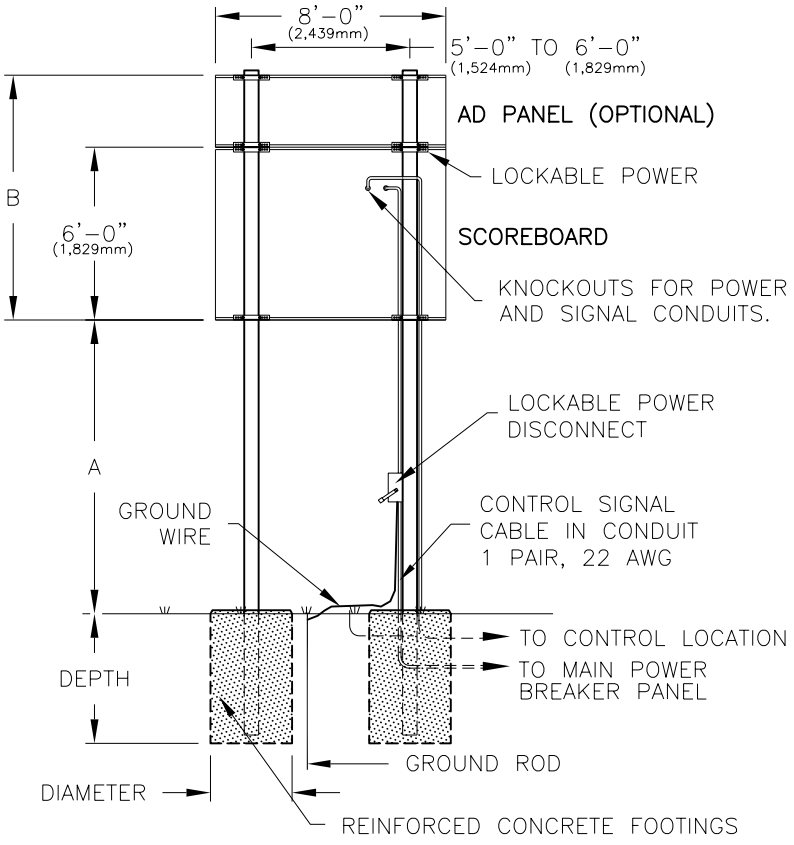
TITLE: INSTALLATION SPECIFICATIONS; MS–2004

DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 030CT02

REVISION 02 | APPR. BY: | SCALE: 1=80

1192-R10A-176286

REV.	DATE	DESCRIPTION	BY	APPR.
02	25 OCT 07	ADDED MILLIMETERS DIMENSIONS	KDD	
01	9 NOV 05	CHANGED POLE SPACING TO 10' – 12'.	JKU	



BA–2010

REAR VIEW

BA–2010						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10 FT	NONE	6'–0"	BEAM	W6X12	W10X15	W6X15
			FOOTING	*2.0X5.0*	*2.0X5.5*	*2.0X6.5*
	2'–0"	8'–0"	BEAM	W6X15	W6X15	W6X20
			FOOTING	*2.0X5.6*	*2.0X6.2*	*2.0X7.3*
12 FT	NONE	6'–0"	BEAM	W6X15	W6X15	W8X18
			FOOTING	*2.0X5.3*	*2.0X5.9*	*2.0X6.9*
	2'–0"	8'–0"	BEAM	W6X15	W8X18	W8X24
			FOOTING	*2.0X5.9*	*2.0X6.5*	*2.0X7.6*
14 FT	NONE	6'–0"	BEAM	W6X15	W8X18	W10X22
			FOOTING	*2.0X5.6*	*2.0X6.1*	*2.0X7.2*
	2'–0"	8'–0"	BEAM	W6X20	W6X20	W8X24
			FOOTING	*2.0X6.2*	*2.0X6.8*	*2.0X8.0*

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

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FOOTING = DIAMETER X DEPTH

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

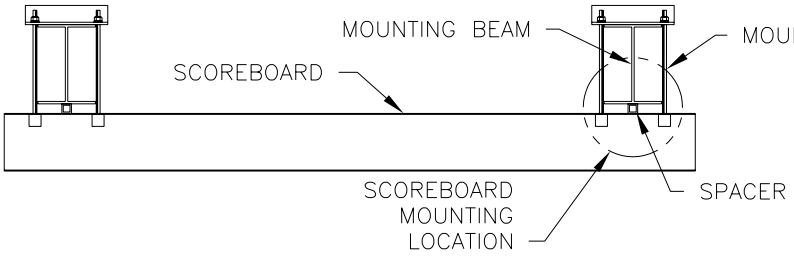
TITLE: INSTALLATION SPECIFICATIONS; BA–2010

DES. BY: MCOPL/RNEYEN DRAWN BY: MCOPLAN DATE: 27NOV02

REVISION 01 APPR. BY: SCALE: 1=80

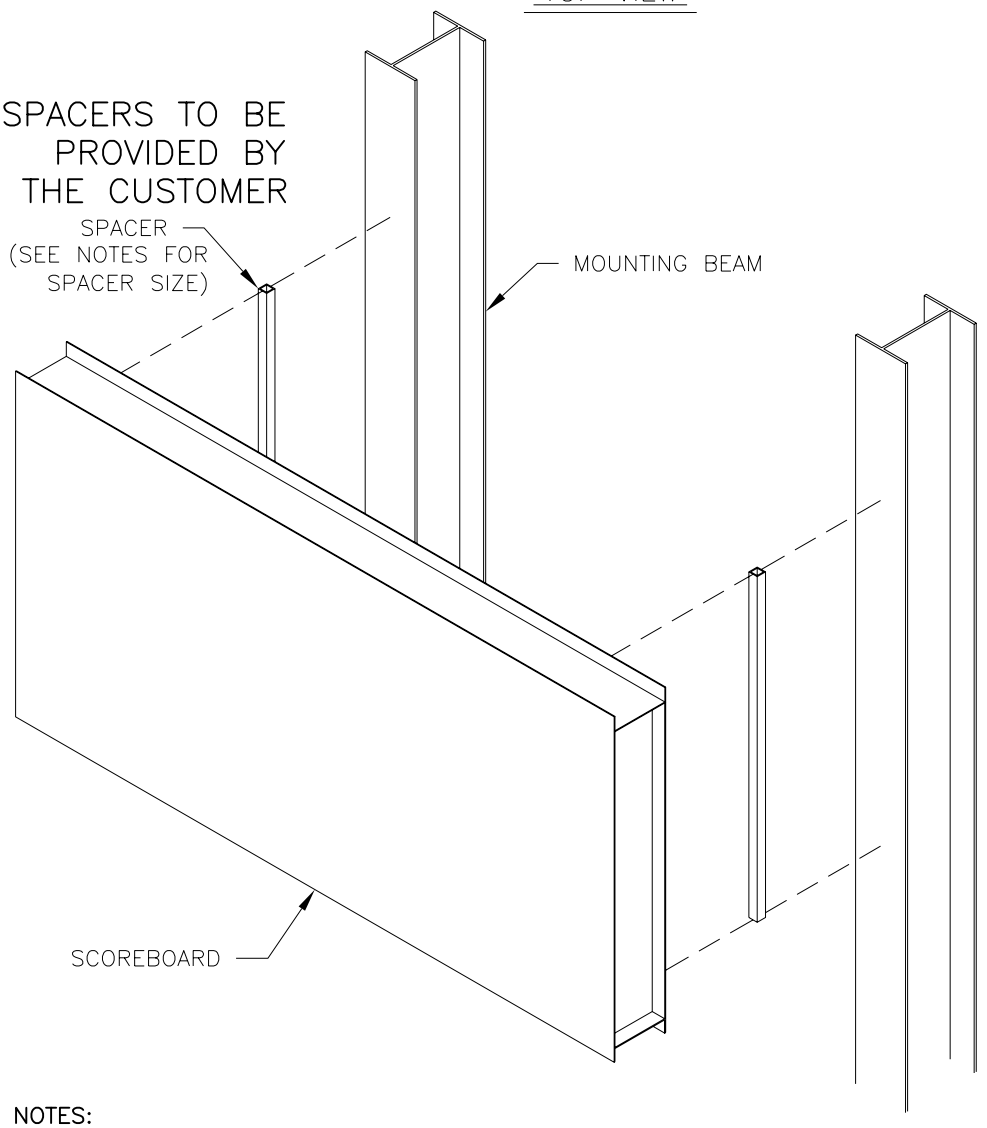
1192-R10A-179304

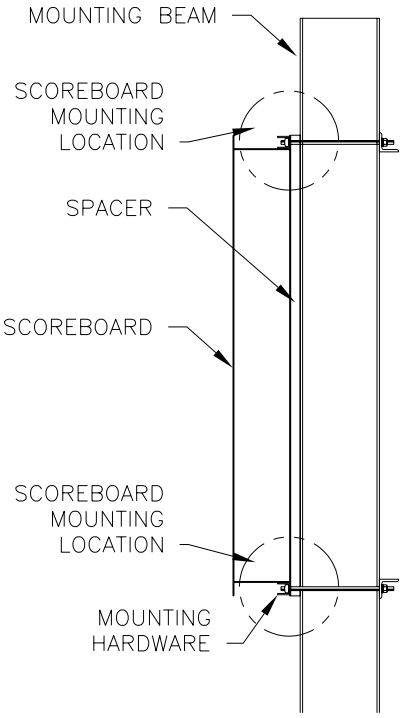
REV.	DATE	DESCRIPTION	BY	APPR.
01	25 OCT 07	ADDED MILLIMETERS DIMENSIONS	KDD	



TOP VIEW

SPACERS TO BE PROVIDED BY THE CUSTOMER





SIDE VIEW

NOTES:
–SPACER SIZE CANNOT EXCEED THE HEIGHT OF THE SCOREBOARD BUT DOES NOT HAVE TO BE THE SAME HEIGHT AS THE SCOREBOARD. SMALLER LENGTHS OF SPACER MATERIAL MAY BE USED AS LONG AS THEY ARE USED AT THE TOP AND BOTTOM SCOREBOARD MOUNTING LOCATIONS. SPACERS SHOWN ABOVE ARE 1"X1". TYPICALLY, THE SPACER DEPTH WILL BE DETERMINED BY THE DIFFERENCE IN DEPTH OF THE SCOREBOARD AND THE AD PANEL (AD PANEL DEPTH – SCOREBOARD DEPTH = SPACER DEPTH).
–THE SPACERS ARE TO BE PROVIDED BY THE CUSTOMER.
–THE SPACERS ARE TO BE PLACED BETWEEN THE SCOREBOARD AND THE MOUNTING POLE.
–THE SPACERS DO NOT NEED TO BE MECHANICALLY ATTACHED TO THE SCOREBOARD OR THE MOUNTING BEAM. THEY WILL BE COMPRESSED BETWEEN THE SCOREBOARD AND THE MOUNTING BEAM WHEN THE SCOREBOARD IS MOUNTED.
–REFER TO THE SCOREBOARD MANUAL FOR THE SCOREBOARD MOUNTING HARDWARE AND OTHER SCOREBOARD MOUNTING DETAILS.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR SCOREBOARDS

TITLE: SCOREBOARD MTG; SCOREBOARD WITH SPACERS

DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 07FEB03

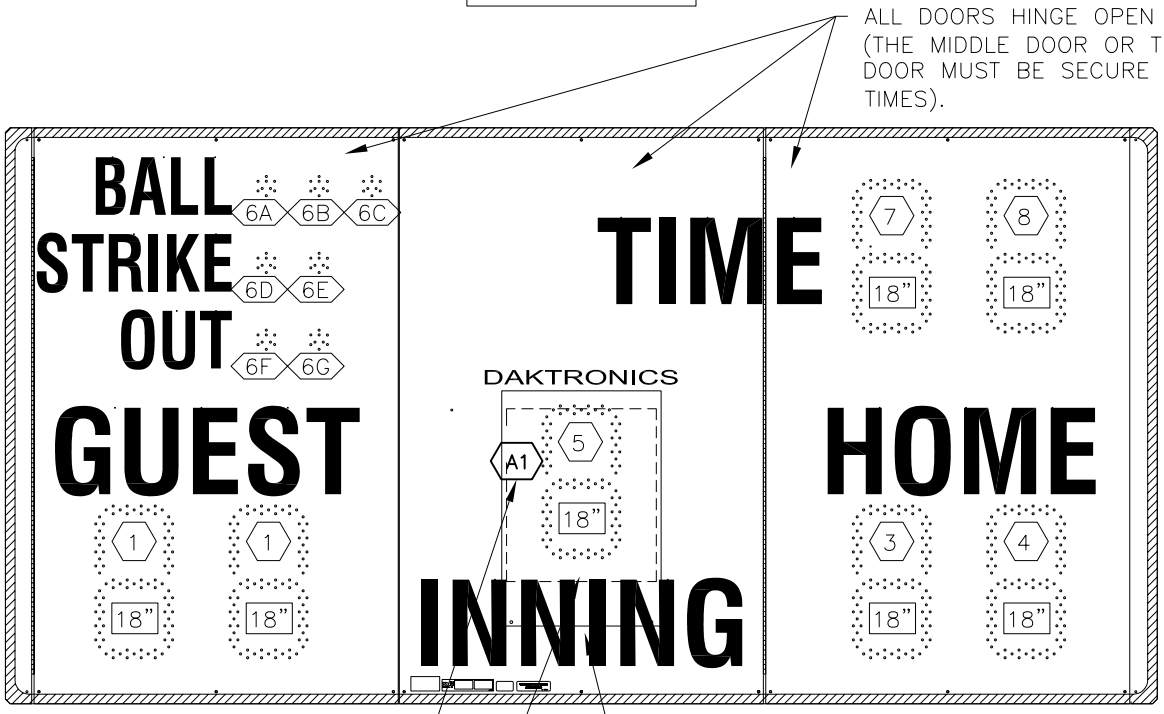
REV.	DATE	DESCRIPTION	BY	APPR.
REVISION				

APPR. BY:

SCALE: 1=20

1192-R08A-182909

BA–2718–31



FRONT VIEW

A1 = DRIVER NUMBER.

1 = DRIVER CONNECTOR WIRED TO THAT DIGIT.

6A = DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

18" = DIGIT SIZE

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DAKTRONICS, INC. BROOKINGS, SD 57006

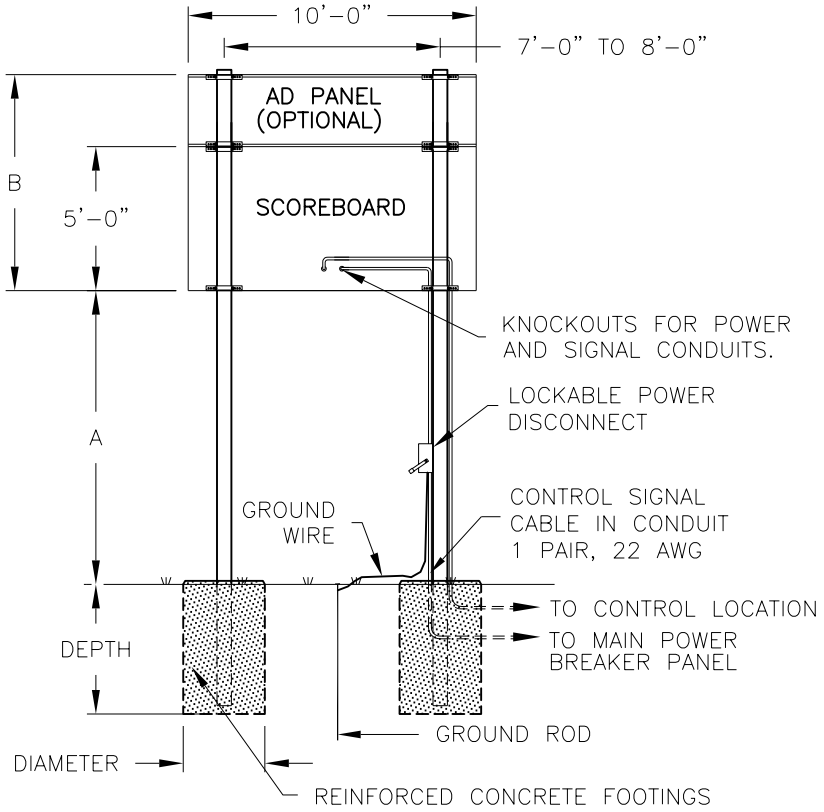
PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; BA–2718–31, G3LC

DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 10MAR04

REVISION 01 | APPR. BY: | SCALE: 1=20 | 1192-R08A-206050

REV.	DATE	DESCRIPTION	BY	APPR.
01	30 NOV 06	ADDED DRIVER ACCESS PANEL	AJS	



REAR VIEW

BA–2618, BA–2718, MS–3918, SO–2918, FB–4005						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10 FT	NONE	5'–0"	BEAM	W10X15	W6X15	W8X18
			FOOTING	*3.0'X4.3'*	*3.0'X4.8'*	*3.0'X5.6'*
	2'–0"	7'–0"	BEAM	W8X18	W6X20	W8X24
			FOOTING	*3.0'X4.9'*	*3.0'X5.4'*	*3.0'X6.4'*
12 FT	NONE	5'–0"	BEAM	W8X18	W8X18	W8X24
			FOOTING	*3.0'X4.6'*	*3.0'X5.1'*	*3.0'X6.0'*
	2'–0"	7'–0"	BEAM	W6X20	W8X24	W12X26
			FOOTING	*3.0'X5.2'*	*3.0'X5.7'*	*3.0'X6.7'*
14 FT	NONE	5'–0"	BEAM	W6X20	W6X20	W12X26
			FOOTING	*3.0'X4.9'*	*3.0'X5.4'*	*3.0'X6.3'*
	2'–0"	7'–0"	BEAM	W12X26	W12X26	W14X30
			FOOTING	*3.0'X5.4'*	*3.0'X6.0'*	*3.0'X7.1'*

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

FOOTING = DIAMETER X DEPTH

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: INSTALLATION SPECS; 5'X10' DISTAVIEW MODELS

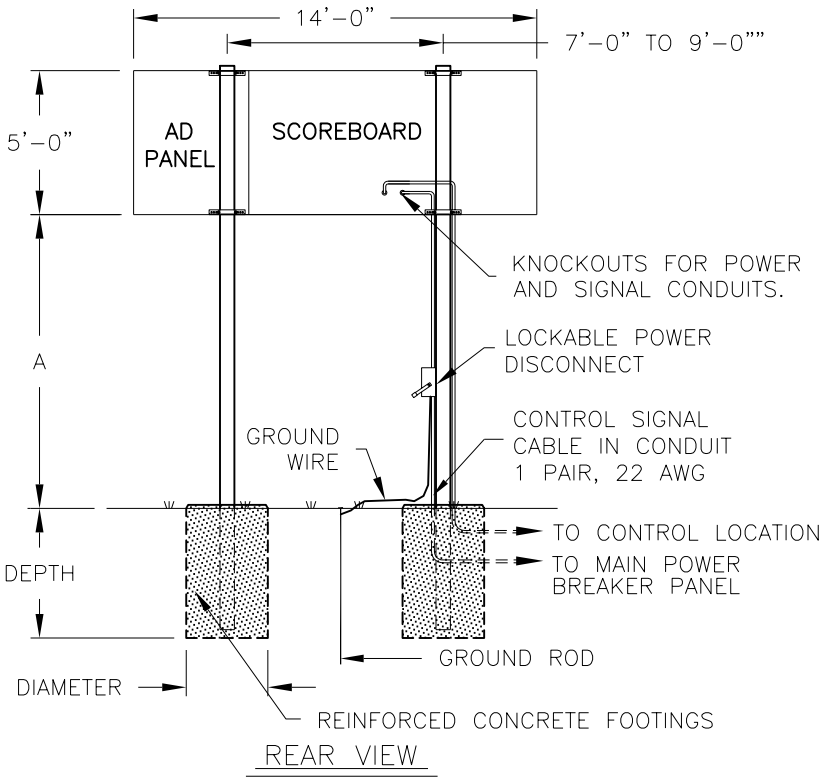
DES. BY: MCOPL/RNEYEN DRAWN BY: MCOPLAN DATE: 16MAR04

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 APPR. BY:

SCALE: 1=80

1192-R10A-206385



REAR VIEW

BA–2618, BA–2718, MS–3918, SO–2918, FB–4005						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10'	NONE	5'–0"	BEAM	W10X15	W8X18	W8X24
			FOOTING	*3.0'X4.8'*	*3.0'X5.3'*	*3.0'X6.3'*
12'	NONE	5'–0"	BEAM	W8X18	W6X20	W8X24
			FOOTING	*3.0'X5.1'*	*3.0'X5.6'*	*3.0'X6.6'*
14'	NONE	5'–0"	BEAM	W6X20	W8X24	W12X26
			FOOTING	*3.0'X5.4'*	*3.0'X5.9'*	*3.0'X7.0'*

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

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FOOTING = DIAMETER X DEPTH

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DAKTRONICS, INC. BROOKINGS, SD 57006

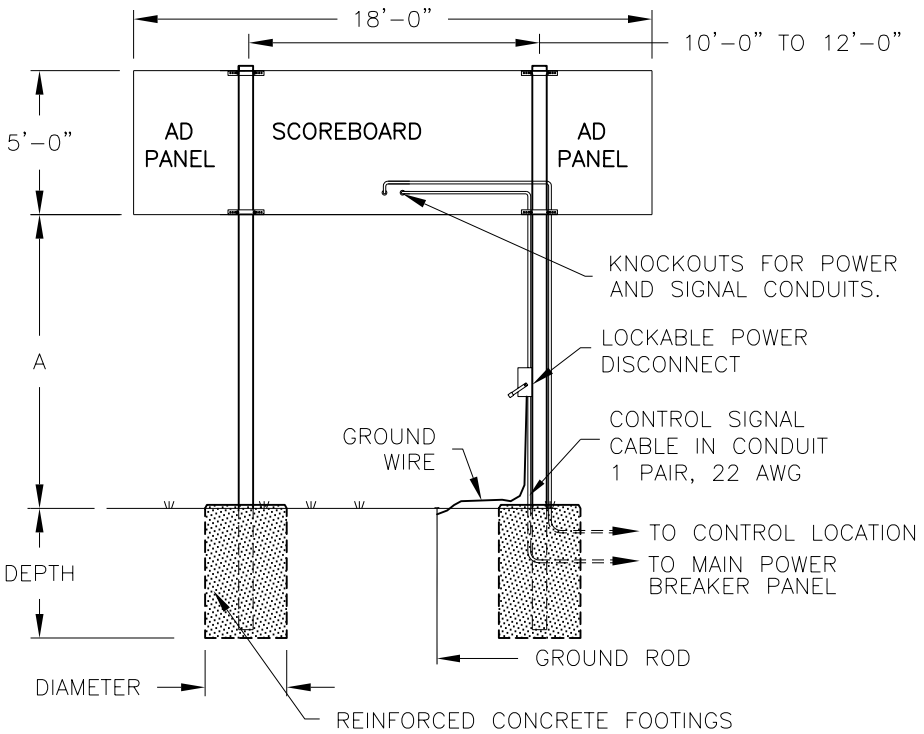
PROJ: OUTDOOR LED SCOREBOARDS

TITLE: INSTALLATION SPECS; 5'X10' DISTAVIEW MODELS, 1 AD

DES. BY: MCOPL/RNEYEN DRAWN BY: MCOPLAN DATE: 16MAR04

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 | APPR. BY: | SCALE: 1=80 | 1192-R10A-206433



REAR VIEW

BA–2618, BA–2718, MS–3918, SO–2918, FB–4005						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10'	NONE	5'–0"	BEAM	W6X15	W8X18	W8X24
			FOOTING	*3.0'X5.2'*	*3.0'X5.7'*	*3.0'X6.8'*
12'	NONE	5'–0"	BEAM	W6X20	W8X24	W12X26
			FOOTING	*3.0'X5.5'*	*3.0'X6.1'*	*3.0'X7.2'*
14'	NONE	5'–0"	BEAM	W8X24	W12X24	W14X30
			FOOTING	*3.0'X5.8'*	*3.0'X6.4'*	*3.0'X7.5'*

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

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FOOTING = DIAMETER X DEPTH

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: INSTALLATION SPECS; 5'X10' DISTAVIEW MODELS, 2 ADS

DES. BY: MCOPL/RNEYEN DRAWN BY: MCOPLAN DATE: 16MAR04

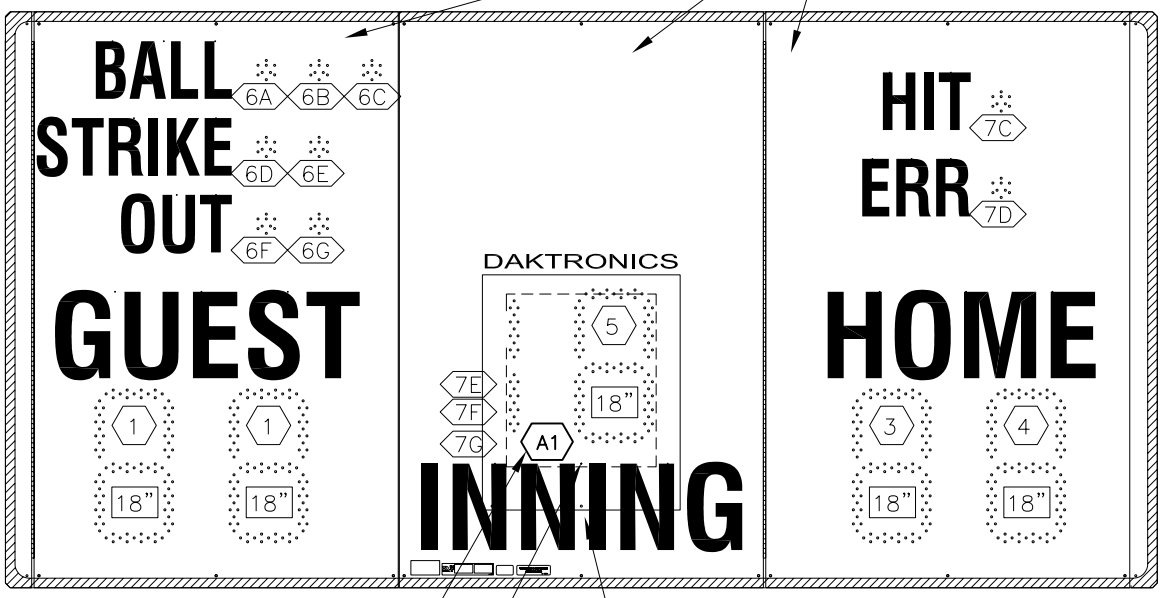
REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 APPR. BY:

SCALE: 1=80

1192-R10A-206437

BA–2618–31



FRONT VIEW

A1 = DRIVER NUMBER.

1 = DRIVER CONNECTOR WIRED TO THAT DIGIT.

6A = DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

18" = DIGIT SIZE

THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2004 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; BA–2618–31, G3LC

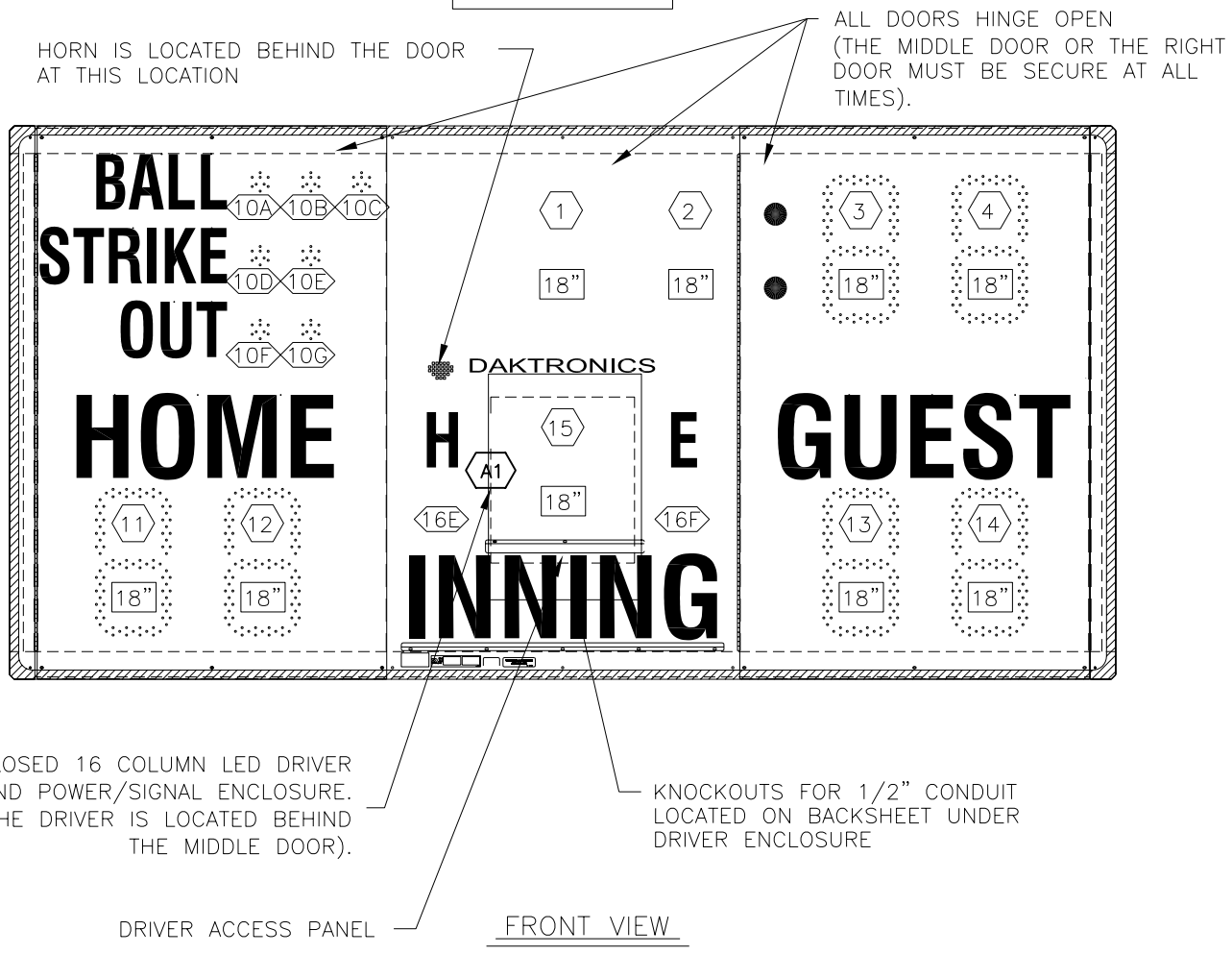
DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 10MAR04

REVISION 01 APPR. BY: SCALE: 1=20

1192-R08A-208073

REV.	DATE	DESCRIPTION	BY	APPR.
01	30 NOV 06	ADDED DRIVER ACCESS PANEL	AJS	

MS-3918-31



FRONT VIEW

⟨A1⟩ = DRIVER NUMBER.

⟨1⟩ = DRIVER CONNECTOR WIRED TO THAT DIGIT.

⟨6A⟩ = DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

[18"] = DIGIT SIZE

THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2004 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; MS-3918-31, G3LC

DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 04AUG04

REVISION 01 APPR. BY: SCALE: 1=20

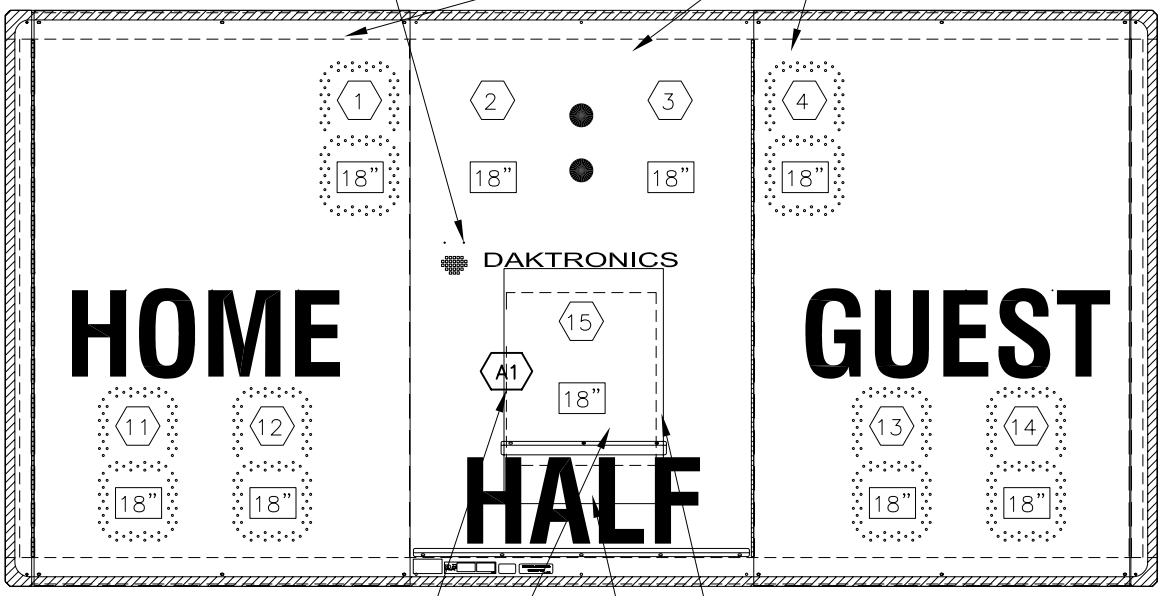
1192-R08A-220350

REV.	DATE	DESCRIPTION	BY	APPR.
01	30 NOV 06	ADDED DRIVER ACCESS PANEL MOVED HORN LOCATION ADDED NEW CAPTION RAIL.	AJS	

SO-2918-31

HORN IS LOCATED BEHIND THE DOOR AT THIS LOCATION

ALL DOORS HINGE OPEN (THE MIDDLE DOOR OR THE RIGHT DOOR MUST BE SECURE AT ALL TIMES).



ENCLOSED 16 COLUMN LED DRIVER AND POWER/SIGNAL ENCLOSURE. (THE DRIVER IS LOCATED BEHIND THE MIDDLE DOOR).

DRIVER ACCESS PANEL

KNOCKOUTS FOR 1/2" CONDUIT LOCATED ON BACKSHEET UNDER DRIVER ENCLOSURE

FRONT VIEW

(A1) = DRIVER NUMBER.

(1) = DRIVER CONNECTOR WIRED TO THAT DIGIT.

[18"] = DIGIT SIZE

REV.	DATE	DESCRIPTION	BY	APPR.
01	30 NOV 06	ADDED ACCESS PANEL MOVED HORN TO NEW LOCATION ADDED NEW CAPTION RAIL	AJS	

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; SO-2918-31, G3LC

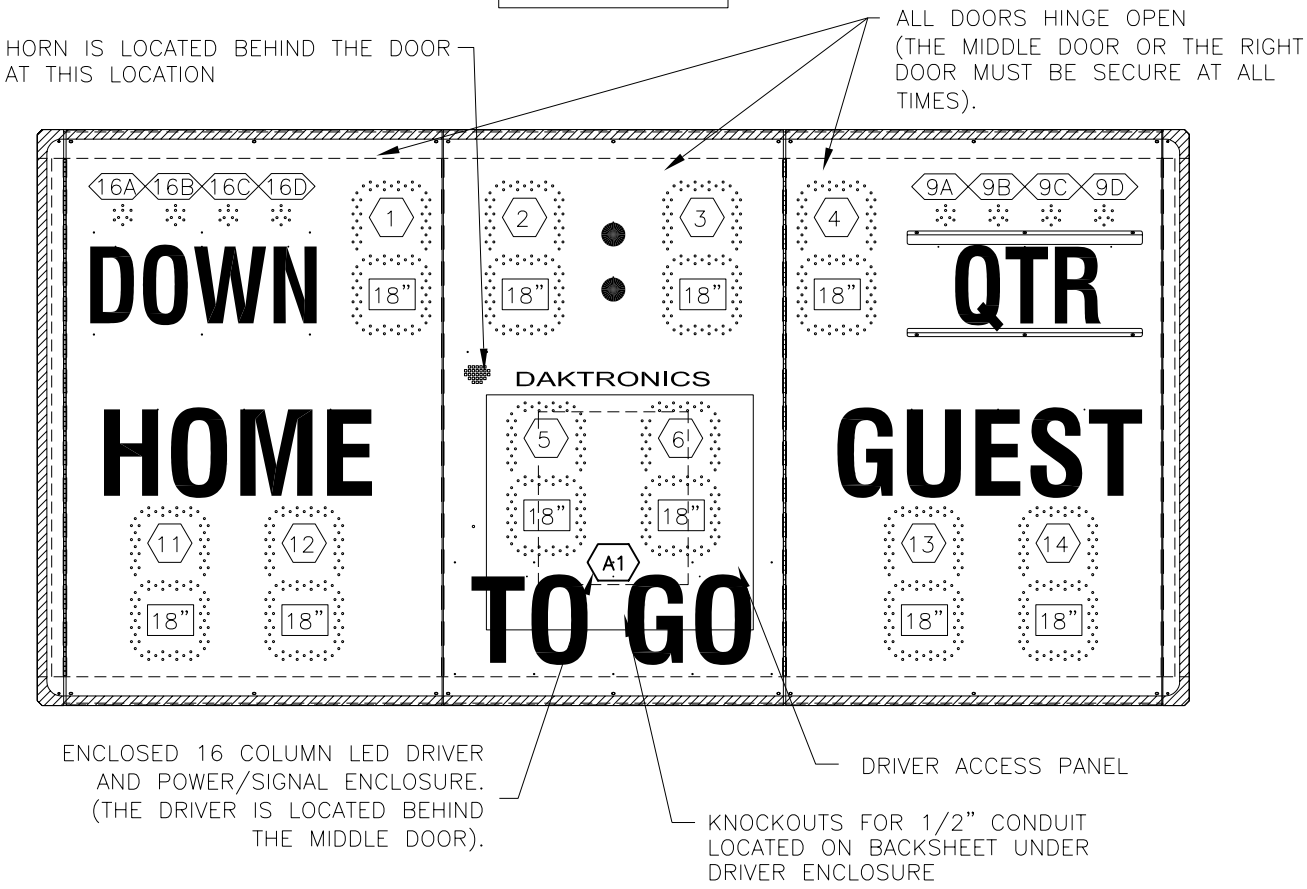
DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 09AUG04

REVISION 01 APPR. BY:

SCALE: 1=20

1192-R08A-220840

FB–4005–31



FRONT VIEW

⟨A1⟩ = DRIVER NUMBER.

⟨1⟩ = DRIVER CONNECTOR WIRED TO THAT DIGIT.

⟨6A⟩ = DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

[18"] = DIGIT SIZE

THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2004 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; FB–4005–31, G3LC

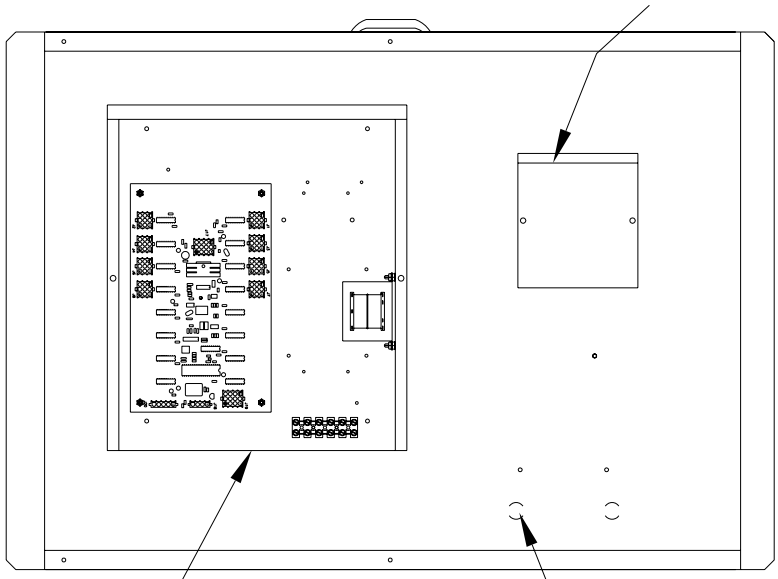
DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 12AUG04

REVISION 01 APPR. BY: SCALE: 1=20

1192-R08A-221249

REV.	DATE	DESCRIPTION	BY	APPR.
01	30 NOV 06	ADDED ACCESS PANEL AND MOVED HORN	AJS	

TI-2015-31

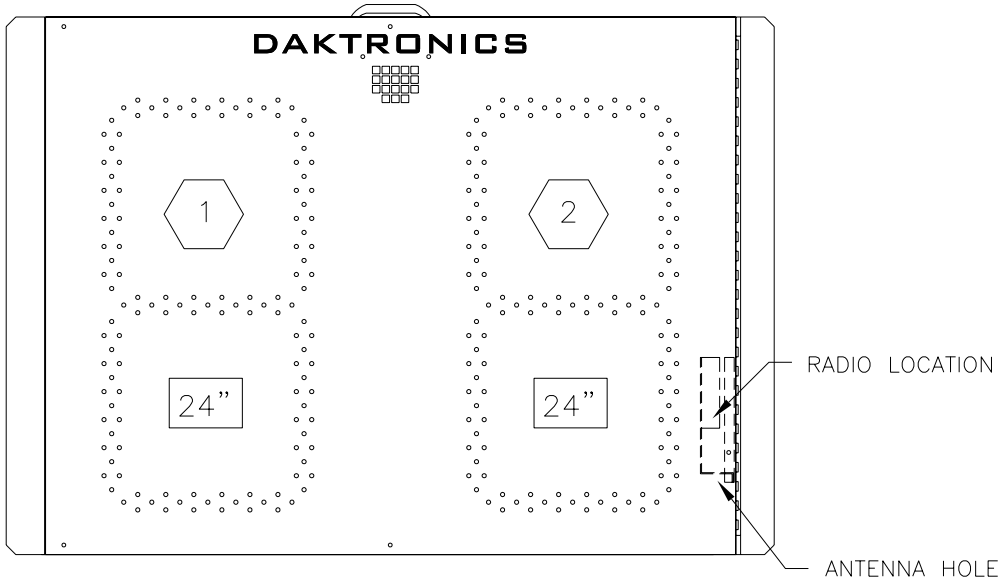


ENCLOSED 8 COLUMN LED DRIVER AND POWER/SIGNAL ENCLOSURE. (THE COVER HAS BEEN REMOVED TO SHOW COMPONENT DETAIL)

KNOCKOUTS FOR CONDUIT

FRONT VIEW

DOOR SHOWN OPEN



FRONT VIEW

DOOR SHOWN CLOSED

(1) = DRIVER CONNECTOR WIRED TO THAT DIGIT

[15"] = DIGIT SIZE

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; TI-2015-31, G3

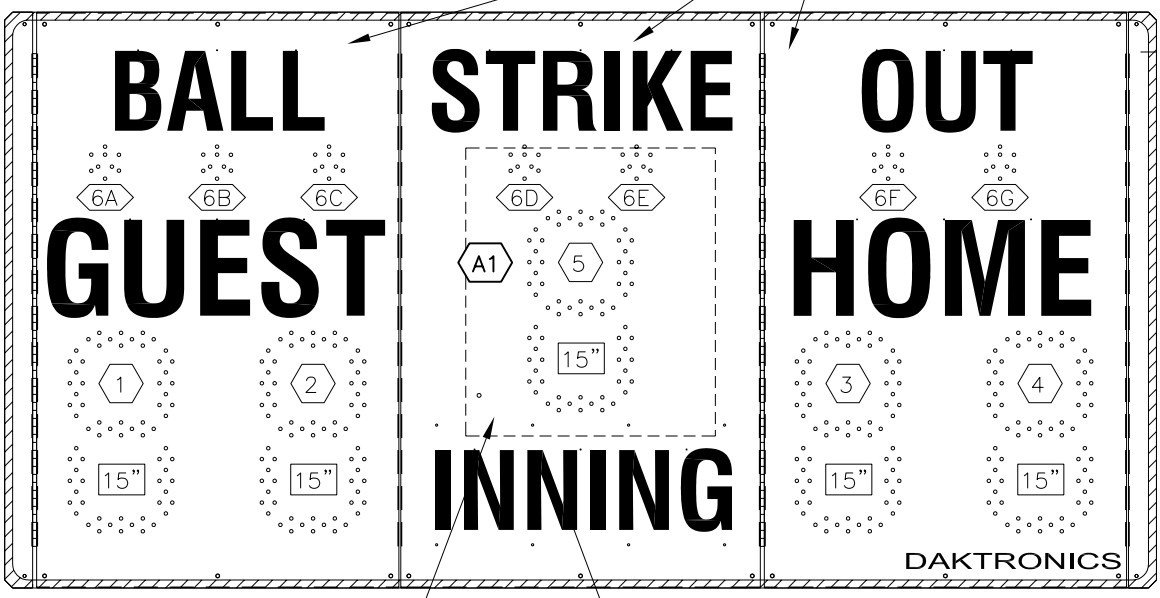
DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 20AUG04

REVISION 01 APPR. BY: SCALE: 1=10

1192-R08A-221827

REV.	DATE	DESCRIPTION	BY	APPR.
01	17 OCT 06	MOVED HORN ASSY LOCATION ADDED RADIO LOCATION IN DWG	AJS	

BA–2515–31



FRONT VIEW

A1 = DRIVER NUMBER.

1 = DRIVER CONNECTOR WIRED TO THAT DIGIT.

6A = DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

18" = DIGIT SIZE

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; BA–2515–31, G3LC

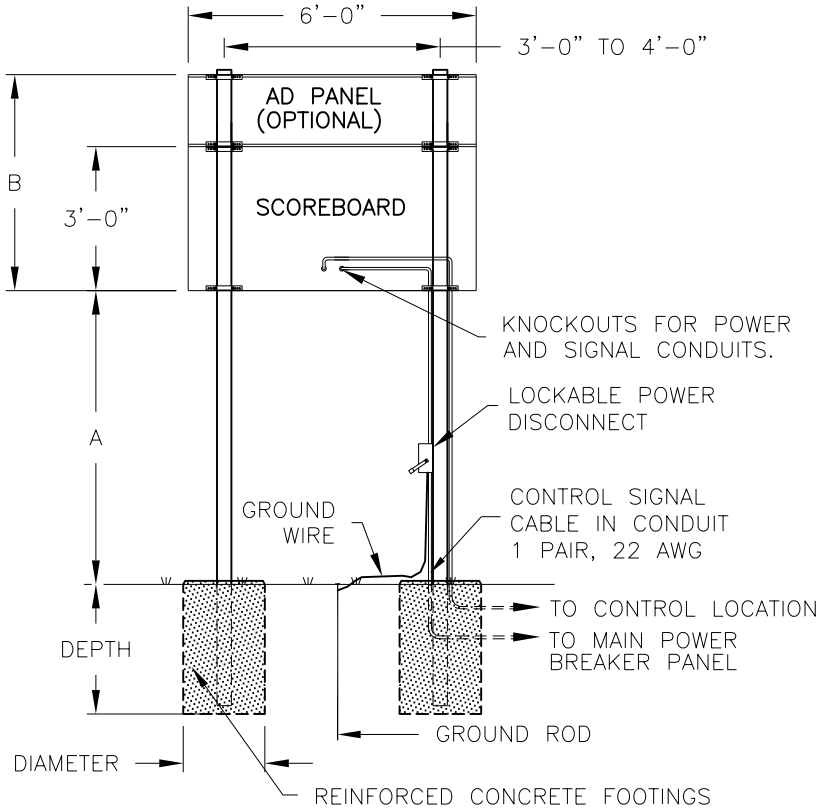
DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 31AUG04

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 APPR. BY:

SCALE: 1=12

1192-R08A-222583



REAR VIEW

BA-2515-31						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10 FT	NONE	3'-0"	BEAM	W10X12	W10X12	W10X12
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 4'*
	2'-0"	5'-0"	BEAM	W10X12	W10X15	W6X15
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 4.5'*
12 FT	NONE	3'-0"	BEAM	W10X12	W10X12	W10X15
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 4'*
	2'-0"	5'-0"	BEAM	W10X15	W6X15	W8X18
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 5'*
14 FT	NONE	3'-0"	BEAM	W10X15	W10X15	W8X18
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 4.5'*
	2'-0"	5'-0"	BEAM	W8X18	W6X20	W6X20
			FOOTING	*3' X 4'*	*3' X 4.5'*	*3' X 5'*

FOOTING = DIAMETER X DEPTH

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: INSTALLATION SPECS; 3'X6' DISTAVIEW MODELS

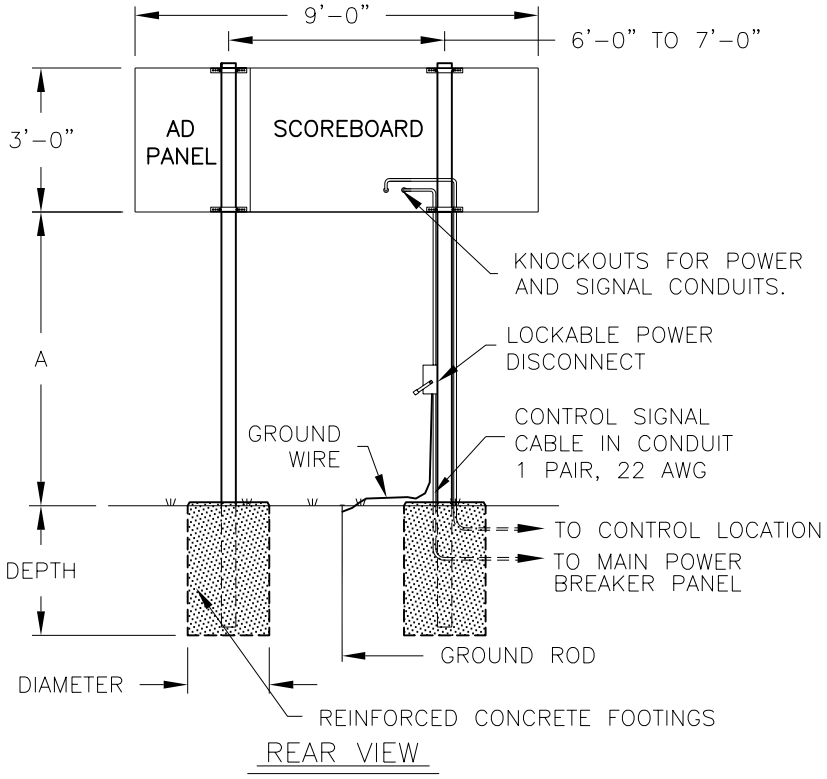
DES. BY: MCOPL/RNEYEN DRAWN BY: MCOPLAN DATE: 07SEP04

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 APPR. BY:

SCALE: 1=80

1192-R10A-222869



BA-2515-31						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10'	NONE	3'-0"	BEAM	W10X12	W10X12	W10X15
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 4.5'*
12'	NONE	3'-0"	BEAM	W10X12	W10X15	W6X15
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 4.5'*
14'	NONE	3'-0"	BEAM	W10X15	W8X18	W8X18
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 5'*

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2

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DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

FOOTING = DIAMETER X DEPTH

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: INSTALLATION SPECS; 3'X6' DISTAVIEW MODELS, 1 AD

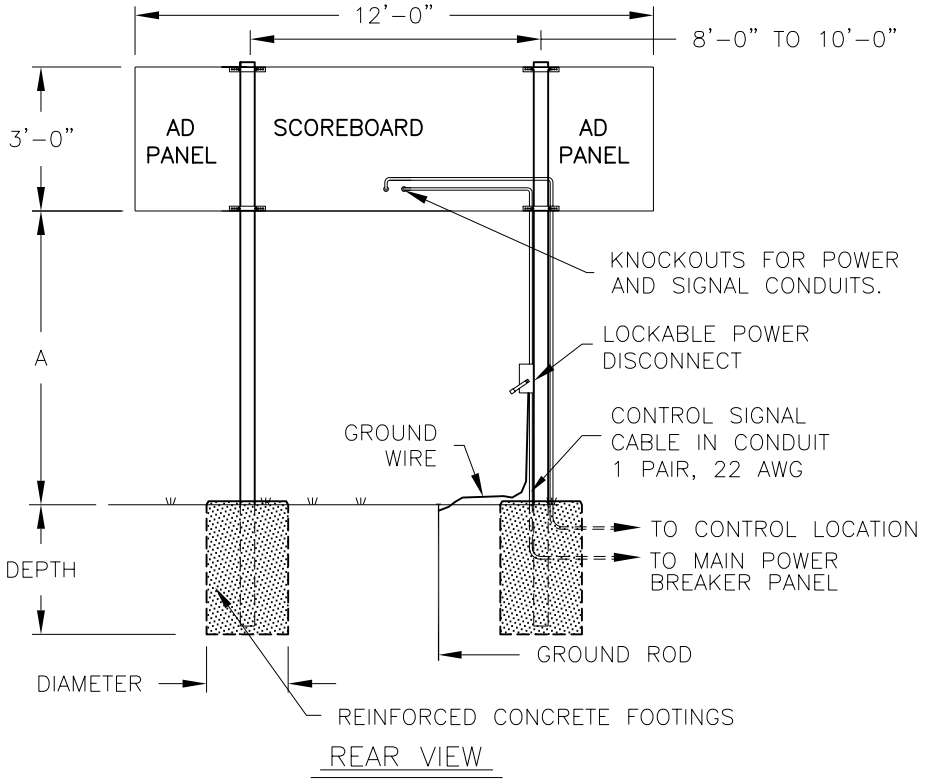
DES. BY: MCOPL/RNEYEN DRAWN BY: MCOPLAN DATE: 07SEP04

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 APPR. BY:

SCALE: 1=80

1192-R10A-222872



REAR VIEW

BA-2515-31						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10'	NONE	3'-0"	BEAM	W10X12	W10X12	W10X15
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 4.5'*
12'	NONE	3'-0"	BEAM	W10X15	W10X15	W8X18
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 5'*
14'	NONE	3'-0"	BEAM	W6X15	W8X18	W6X20
			FOOTING	*3' X 4'*	*3' X 4.5'*	*3' X 5.5'*

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

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FOOTING = DIAMETER X DEPTH

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: INSTALLATION SPECS; 3'X6' DISTAVIEW MODELS, 2 ADS

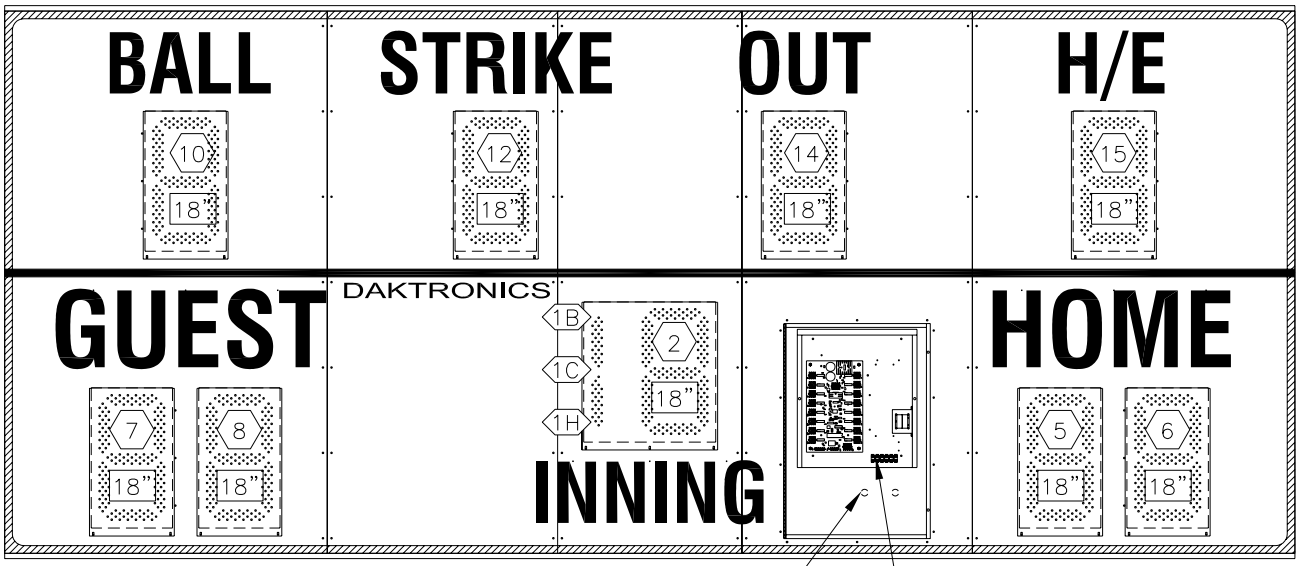
DES. BY: MCOPL/RNEYEN DRAWN BY: MCOPLAN DATE: 07SEP04

REVISION 00 | APPR. BY: | SCALE: 1=80

1192-R10A-222875

REV.	DATE	DESCRIPTION	BY	APPR.

BA–1018–31



KNOCKOUTS FOR 1/2" CONDUIT

ENCLOSED 16 COLUMN LED DRIVER AND POWER/SIGNAL ENCLOSURE. (THE COVER HAS BEEN REMOVED TO SHOW THE COMPONENT DETAIL).

FRONT VIEW

⟨5⟩ = LED DRIVER CONNECTOR WIRED TO THAT DIGIT.

⟨1C⟩ = LED DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

[18"] = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW THE LED DRIVER AND POWER/SIGNAL ENCLOSURE.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; BA–1018–31, FD, G3

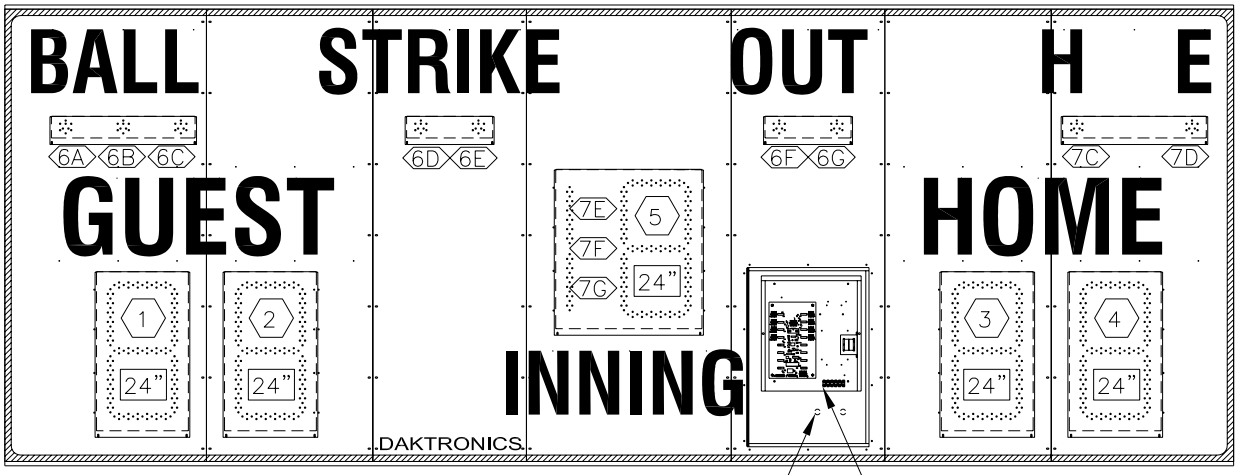
DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 16NOV04

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 APPR. BY: SCALE: 1=25

1192-R08A-227884

BA–624–31



KNOCKOUTS FOR 1/2" CONDUIT.

ENCLOSED 8 COLUMN LED DRIVER AND POWER/SIGNAL ENCLOSURE. (THE COVER HAS BEEN REMOVED TO SHOW THE COMPONENT DETAIL).

FRONT VIEW

⟨1⟩ = LED DRIVER CONNECTOR WIRED TO THAT DIGIT.

⟨6A⟩ = LED DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

[24"] = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW THE LED DRIVER AND POWER/SIGNAL ENCLOSURE.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; BA–624–31, FD, G3

DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 17NOV04

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 APPR. BY: SCALE: 1=30

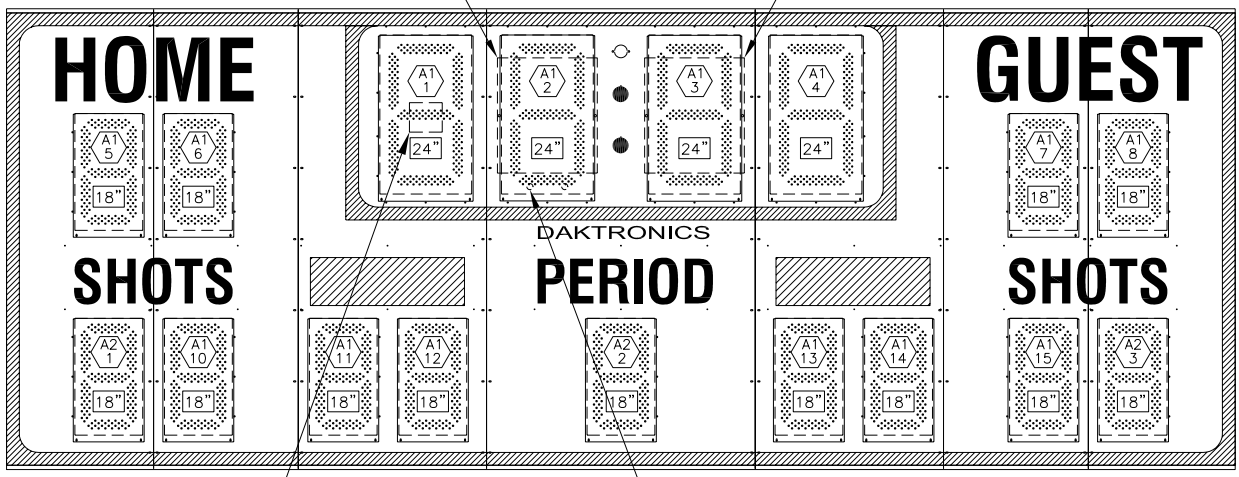
1192-R08A-227963

SO-2013-31

DRIVER A1:
ENCLOSED 16 COLUMN MASTER LED DRIVER AND POWER/SIGNAL ENCLOSURE. (THE COVER HAS BEEN REMOVED TO SHOW THE COMPONENT DETAIL).

NOTE: ALL COMPONENTS ARE LOCATED BEHIND DIGIT PANELS.

DRIVER A2:
ENCLOSED 16 COLUMN MASTER LED DRIVER AND POWER/SIGNAL ENCLOSURE. (THE COVER HAS BEEN REMOVED TO SHOW THE COMPONENT DETAIL).



12V HORN ENCLOSURE (OPTIONAL)

KNOCKOUTS FOR 1/2" CONDUIT

FRONT VIEW

A1 12 = LED DRIVER AND CONNECTOR WIRED TO THAT DIGIT.

18" = DIGIT SIZE

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DAKTRONICS, INC. BROOKINGS, SD 57006

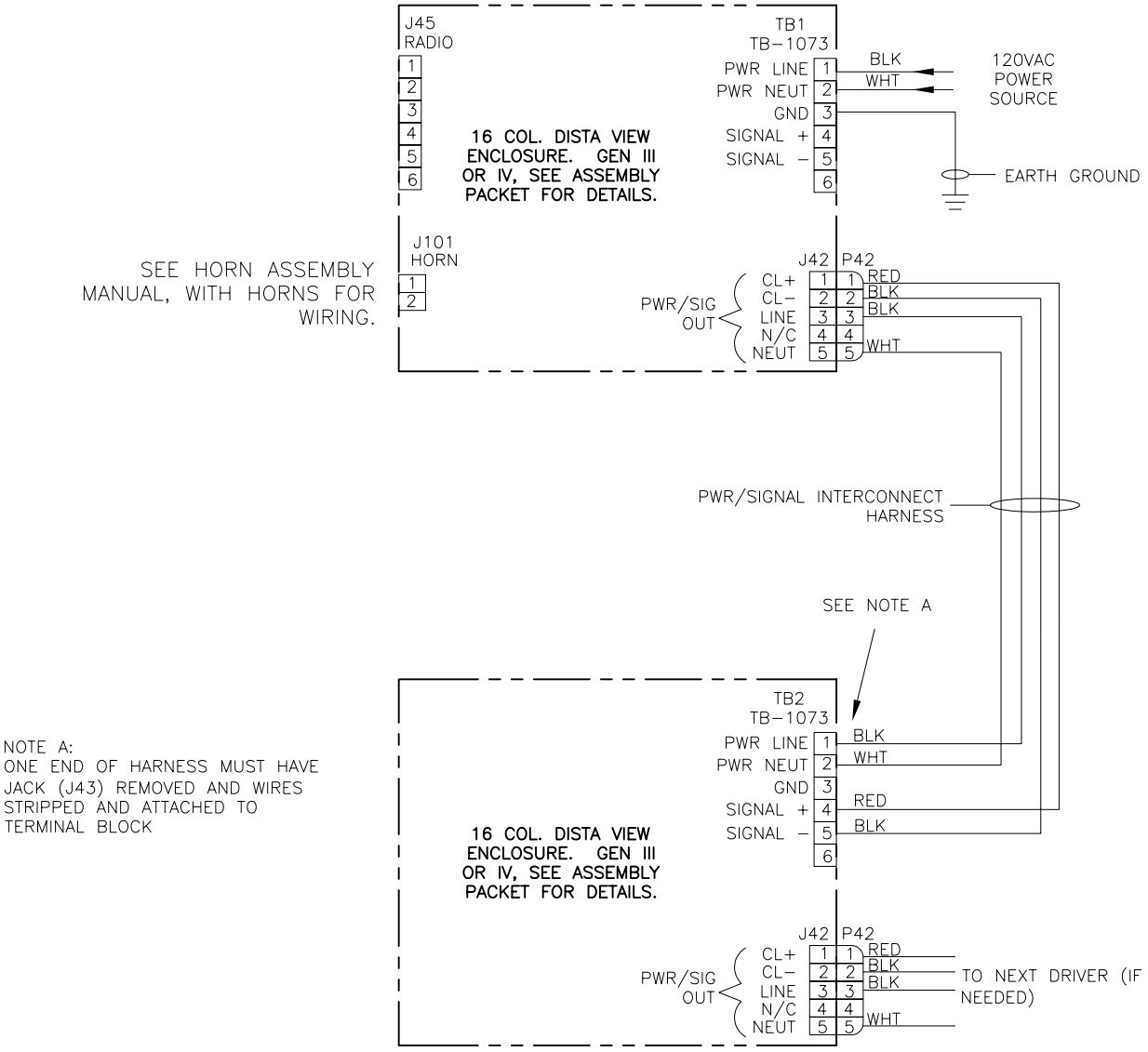
PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; SO-2013-31, FD, G3

DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 02DEC04

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 | APPR. BY: | SCALE: 1=30 | 1192-R08A-228864



NOTE A:
ONE END OF HARNESS MUST HAVE JACK (J43) REMOVED AND WIRES STRIPPED AND ATTACHED TO TERMINAL BLOCK

PWR/SIG INTERCONNECT HARNESS

PART NUMBER	LENGTH
0A-1192-1028	4'
0A-1192-1029	8'
0A-1192-1030	10'
0A-1192-1031	12'
0A-1192-1032	16'
0A-1192-1033	22'
0A-1192-1034	26'
0A-1192-1083	30'
0A-1192-1084	35'

THIS SCHEMATIC REPRESENTS THE INTERCONNECT OF THE MASTER DRIVER TO OTHER DRIVERS/TNMC'S IN A MULTI DRIVER SCOREBOARD CONFIGURATION. SEE THE PRE-PAINT ASSEMBLY DRAWING AND/OR THE FINAL ASSEMBLY DRAWING FOR THE PART NUMBERS OF THE INTERCONNECT HARNESSES NEEDED AND INSTALLATION INSTRUCTIONS.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: LED SCOREBOARDS

TITLE: SCHEMATIC; DISTA VIEW; O.D. LED, MULTI DRIVER DISPLAY

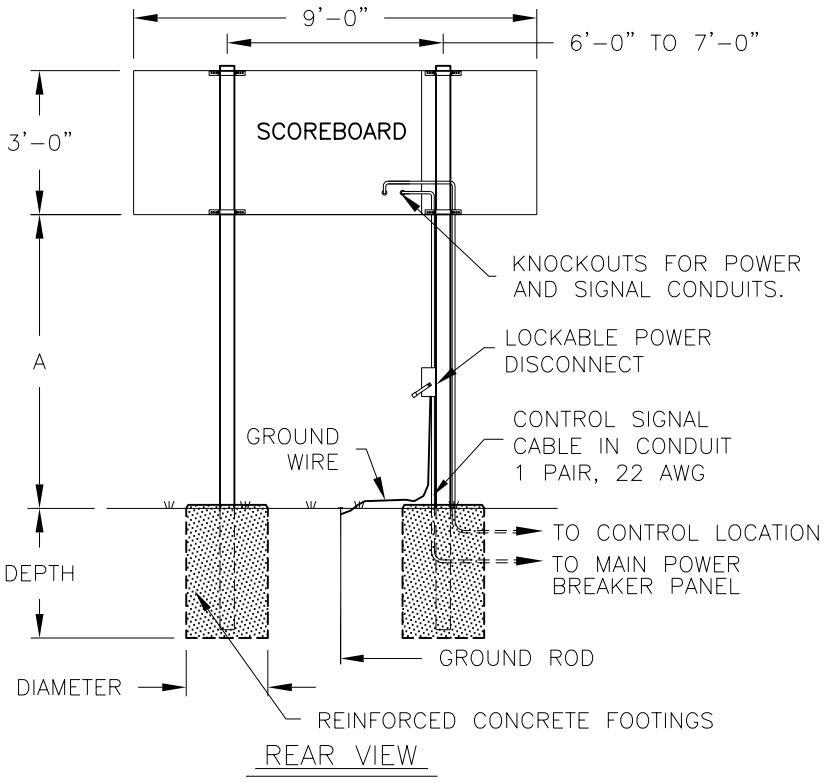
DES. BY: MMILLER DRAWN BY: KBIERBA DATE: 10 MAR 05

REVISION 00 APPR. BY:

SCALE: NONE

1192-E03A-229706

REV.	DATE	DESCRIPTION	BY	APPR.



BA-2715-31						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10'	NONE	3'-0"	BEAM	W10X12	W10X12	W10X15
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 4.5'*
12'	NONE	3'-0"	BEAM	W10X12	W10X15	W6X15
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 4.5'*
14'	NONE	3'-0"	BEAM	W10X15	W8X18	W8X18
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 5'*

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FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

FOOTING = DIAMETER X DEPTH

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

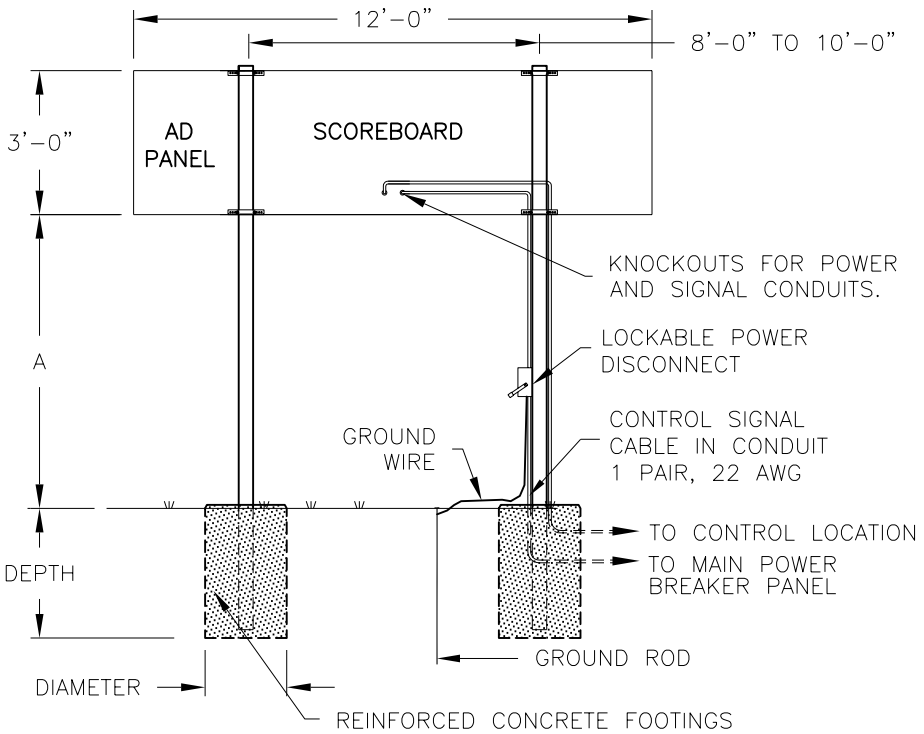
TITLE: INSTALLATION SPECS; BA-2715-31

DES. BY: MCOPL/RNEYEN DRAWN BY: MCOPLAN DATE: 20DEC04

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 | APPR. BY: | SCALE: 1=80

1192-R10A-229969



REAR VIEW

BA–2715–31 W/ 1 AD						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10'	NONE	3'–0"	BEAM	W10X12	W10X12	W10X15
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 4.5'*
12'	NONE	3'–0"	BEAM	W10X15	W10X15	W8X18
			FOOTING	*3' X 4'*	*3' X 4'*	*3' X 5'*
14'	NONE	3'–0"	BEAM	W6X15	W8X18	W6X20
			FOOTING	*3' X 4'*	*3' X 4.5'*	*3' X 5.5'*

FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT^2

ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

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FOOTING = DIAMETER X DEPTH

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: INSTALLATION SPECS; BA–2715–31 W/ 1 AD

DES. BY: MCOPL/RNEYEN DRAWN BY: MCOPLAN DATE: 20DEC04

REV.	DATE	DESCRIPTION	BY	APPR.

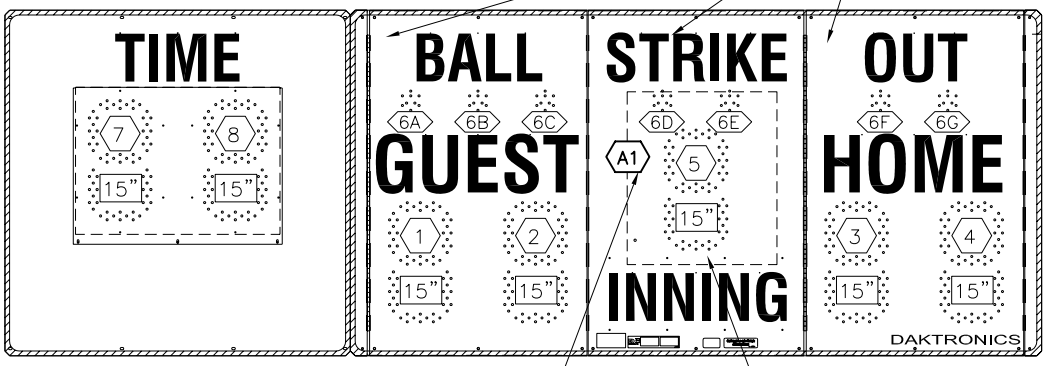
REVISION 00 APPR. BY:

SCALE: 1=80

1192-R10A-229970

BA-2715-31

ALL DOORS HINGE OPEN
(THE MIDDLE DOOR OR THE RIGHT DOOR MUST BE SECURE AT ALL TIMES).



ENCLOSED 8 COLUMN LED DRIVER AND POWER/SIGNAL ENCLOSURE. (THE DRIVER IS LOCATED BEHIND THE MIDDLE DOOR).

KNOCKOUTS FOR 1/2" CONDUIT LOCATED ON BACKSHEET UNDER DRIVER ENCLOSURE

FRONT VIEW

(A1) = DRIVER NUMBER.

(1) = DRIVER CONNECTOR WIRED TO THAT DIGIT.

(6A) = DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

[18"] = DIGIT SIZE

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; BA-2715-31, G3LC

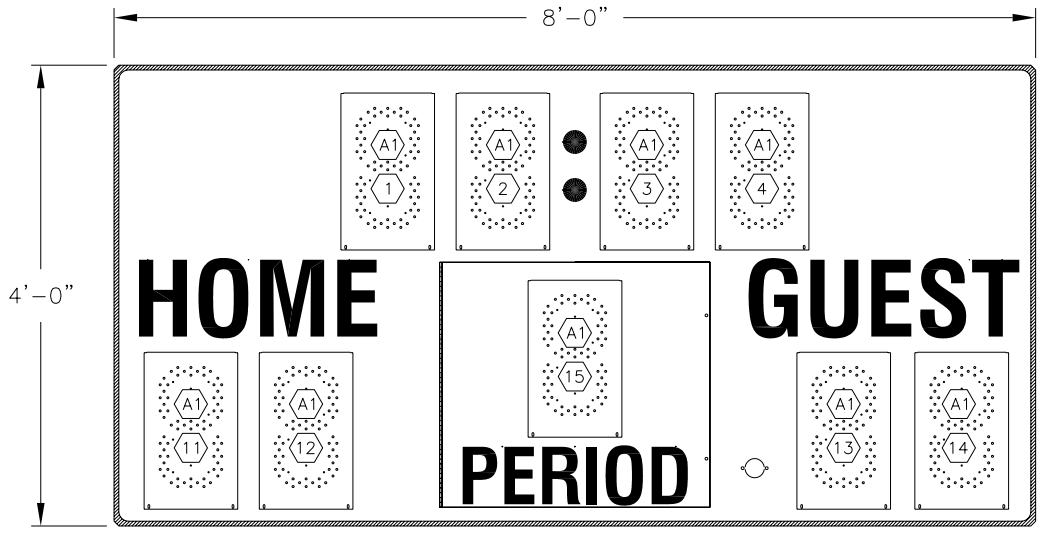
DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 21DEC04

REVISION 00 APPR. BY: SCALE: 1=12

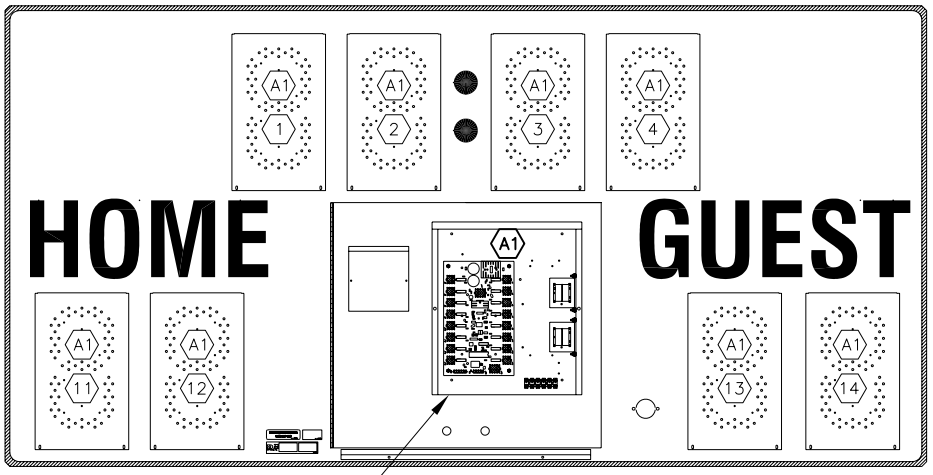
1192-R08A-230119

REV.	DATE	DESCRIPTION	BY	APPR.

MS-915-31



FRONT VIEW



LOCATION OF 16 COLUMN DISTAVIEW DRIVER @1. POWER/SIGNAL TERMINATIONS

FRONT VIEW

HINGED ACCESS DOOR SHOWN REMOVED TO SHOW INTERNAL ELECTRICAL COMPONENTS.

⟨A1⟩ = DRIVER A1

⟨14⟩ = PLUG #

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS, MS-915-31, G3

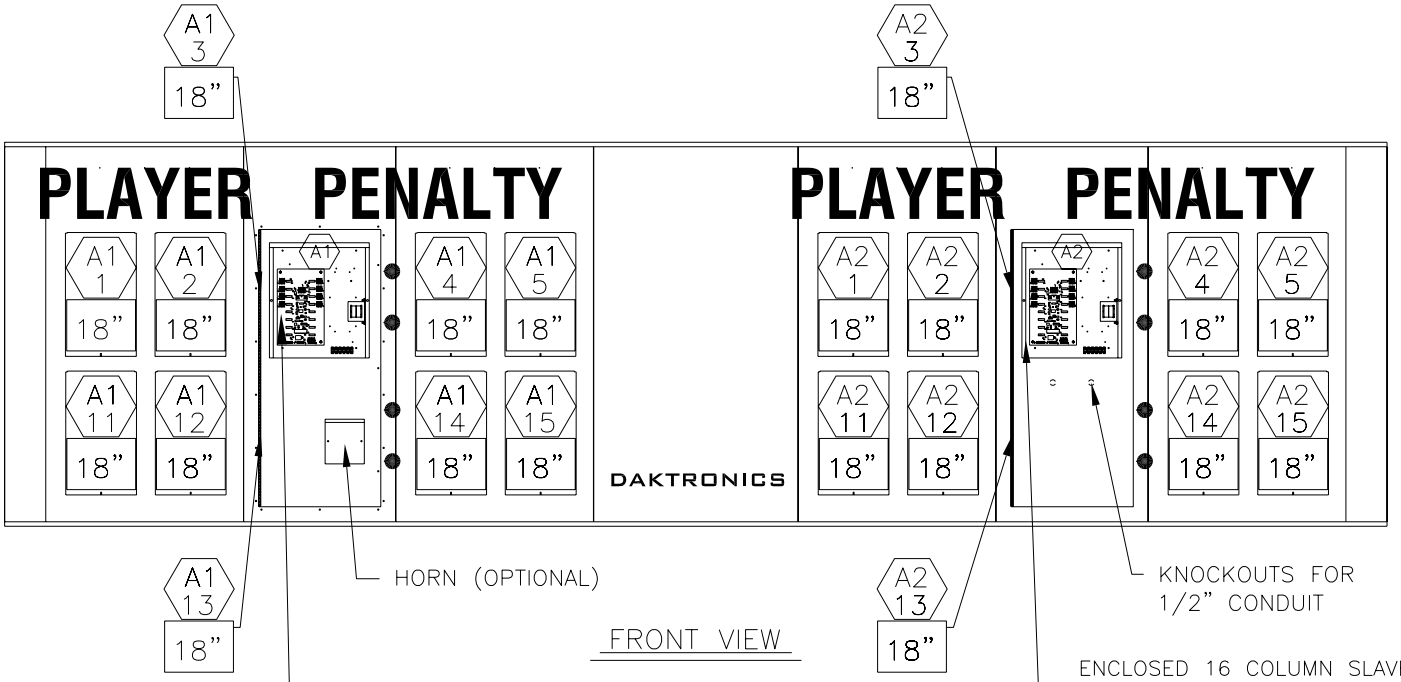
DES. BY: CCAIN DRAWN BY: CCAIN DATE: 05 APR 05

REVISION 01 APPR. BY: SCALE: 1=20

1192-E10A-238274

REV.	DATE	DESCRIPTION	BY	APPR.
01	14 APR 05	MOVED PANEL BY DRIVER UP 10"	EKT	

MS–2004–31



FRONT VIEW

ENCLOSED 16 COLUMN MASTER LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @1.

A1 1 = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.

24" = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW THE LED DRIVER AND POWER AND SIGNAL ENCLOSURE.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; MS–2004–31, G3

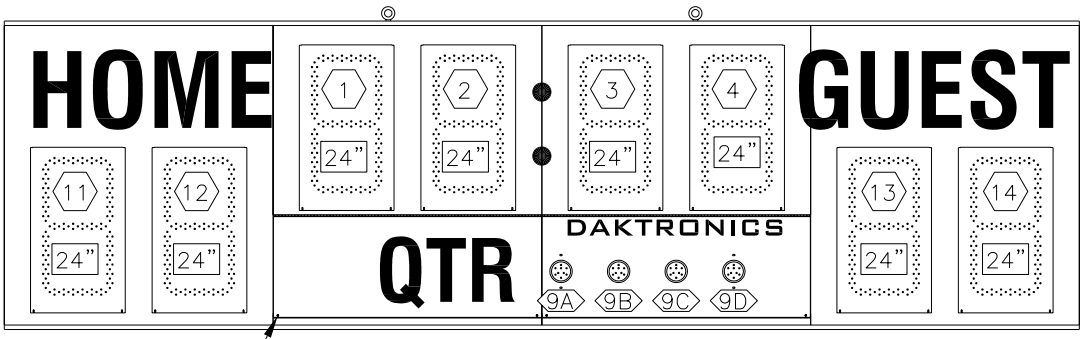
DES. BY: CCAIN DRAWN BY: CCAIN DATE: 15 JUN 05

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00 APPR. BY: SCALE: 1=30

1192-R08A-245172

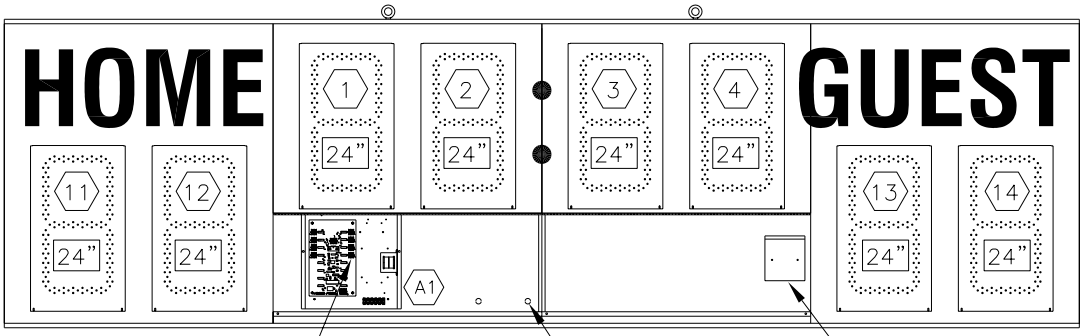
FB–824–31



REMOVE SCREWS TO ACCESS LED DRIVER & ENTRANCE

FRONT VIEW

(SHOWN WITH DOORS CLOSED)



ENCLOSED 16 COLUMN DRIVER AND POWER/SIGNAL ENCLOSURE. (THE COVER HAS BEEN REMOVED TO SHOW COMPONENT DETAIL).

KNOCKOUT FOR 1/2" CONDUIT

HORN (OPTIONAL)

FRONT VIEW

(SHOWN WITH DOORS OPEN)

⟨1⟩ = LED DRIVER CONNECTOR WIRED TO THAT DIGIT.

⟨6A⟩ = LED DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

[24"] = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW THE LED DRIVER AND THE POWER/SIGNAL ENCLOSURE.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMP LOCATION; FB–824–31, G3

DES. BY: CCAIN DRAWN BY: CCAIN DATE: 15 JUN 05

REV.	DATE	DESCRIPTION	BY	APPR.

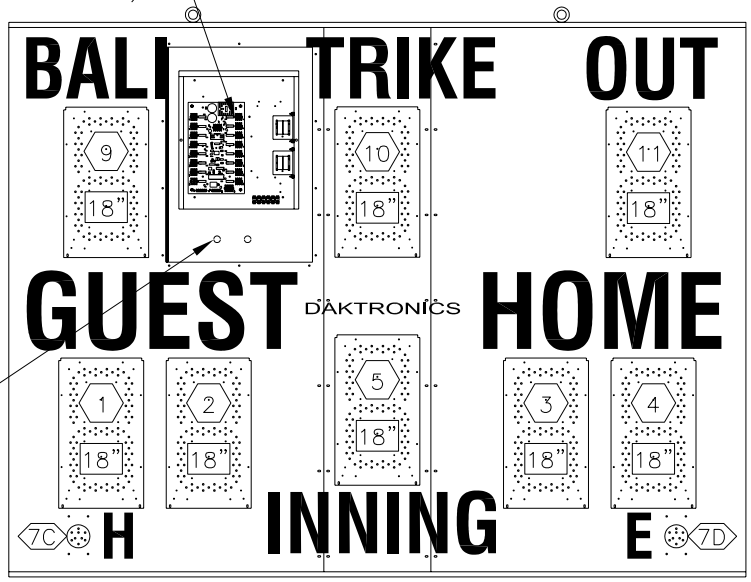
REVISION 00 APPR. BY: SCALE: 1=30

1192-R08A-245179

BA–2010–31, FD

ENCLOSED 16 COLUMN LED DRIVER AND POWER/SIGNAL ENCLOSURE. (THE COVER HAS BEEN REMOVED TO SHOW THE COMPONENT DETAIL).

KNOCKOUTS FOR 1/2" CONDUIT



FRONT VIEW

⟨5⟩ = LED DRIVER CONNECTOR WIRED TO THAT DIGIT.

⟨1C⟩ = LED DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

[18"] = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW THE LED DRIVER AND POWER/SIGNAL ENCLOSURE.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; BA–2010–31, G3

DES. BY: CCAIN DRAWN BY: CCAIN DATE: 25 JUL 05

REVISION 00 | APPR. BY: | SCALE: 1=25

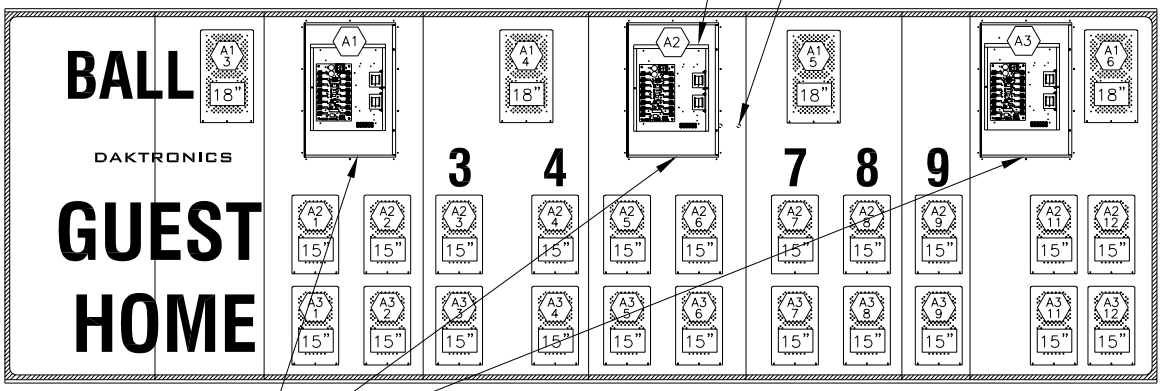
1192-R08A-248737

REV.	DATE	DESCRIPTION	BY	APPR.

BA–2004–31

ENCLOSED 16 COLUMN G3LC DRIVER AND POWER/SIGNAL ENCLOSURE @3. (THE COVER HAS BEEN REMOVED TO SHOW THE COMPONENT DETAIL).

KNOCKOUTS FOR CONDUIT PROVIDED IN REAR OF SCBD @2



NOTE: SOME CAPTIONS HAVE BEEN REMOVED TO SHOW DETAIL

FRONT VIEW

HINGED ACCESS DOORS REMOVED TO SHOW THE LED DRIVER AND THE POWER/SIGNAL ENCLOSURE.

18" = DIGIT SIZE

⟨5⟩ = LED DRIVER CONNECTOR

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATIONS; BA–2004–31, FD, G3

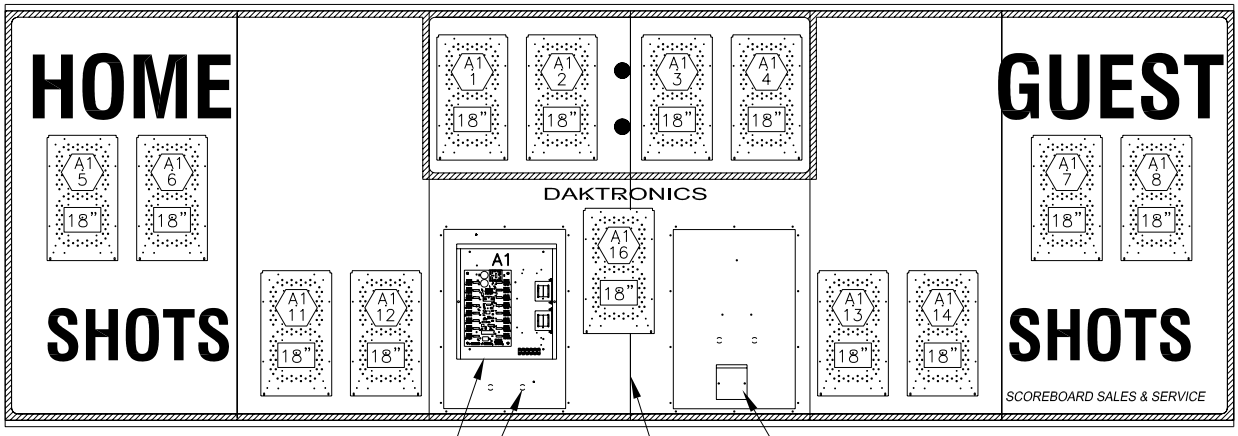
DES. BY: CCAIN DRAWN BY: CCAIN DATE: 25 JUL 05

REVISION 00 APPR. BY: SCALE: 1=40

1192-R08A-248741

REV.	DATE	DESCRIPTION	BY	APPR.

SO-2008-31, FD



ENCLOSED 16 COLUMN LED DRIVER AND POWER AND SIGNAL ENCLOSURE. (THE COVER HAS BEEN REMOVED TO SHOW THE LED DRIVER).

KNOCKOUT FOR 1/2" CONDUIT

HORN (OPTIONAL)

NOTE THAT THE PERIOD CAPTION AND ACCESS DOORS HAVE BEEN REMOVED TO SHOW DETAIL.

24" = DIGIT SIZE

A1 1 = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.

HINGED ACCESS DOORS REMOVED TO SHOW LED DRIVER AND THE POWER AND SIGNAL ENCLOSURE.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

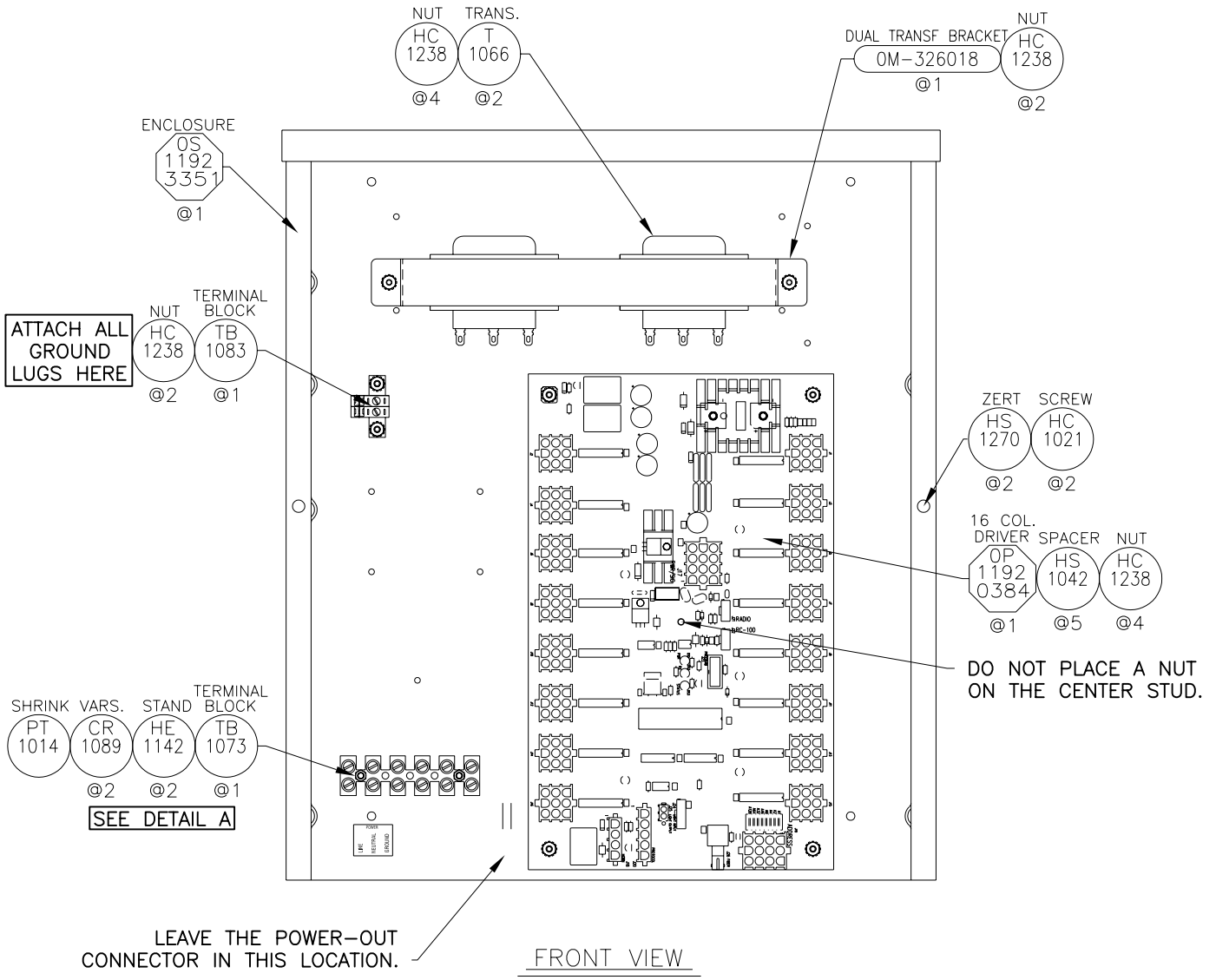
TITLE: COMPONENT LOCATIONS; SO-2008-31, G3, FD

DES. BY: CCAIN DRAWN BY: CCAIN DATE: 25 JUL 05

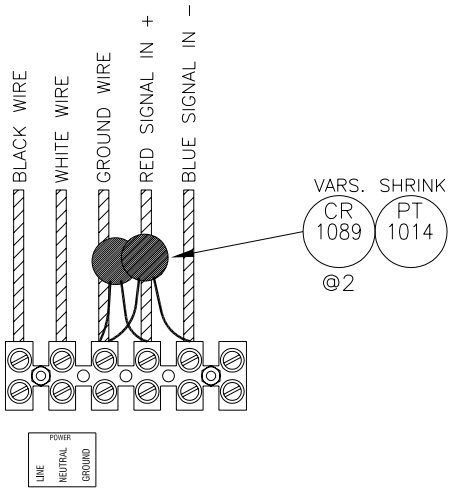
REVISION 00 APPR. BY: SCALE: 1=30

1192-R08A-248745

REV.	DATE	DESCRIPTION	BY	APPR.



FRONT VIEW



DETAIL: A
(SCALE 1=1.5)

ASSEMBLY PACKETS

0A-1192-4255...DRIVER; GEN IV LC OUTDOOR LED, 16 COL
.0S-1192-3351...ENCLOSURE; GEN IV OUTDOOR LED DRIVER

REV.	DATE	DESCRIPTION	BY	APPR.
05	22 APR 08	ADDED VARISTORS AND SHRINK PER ECO049764	AMG	
04	08 APR 08	UPDATED DETAIL A PER ECO49817	KZB	

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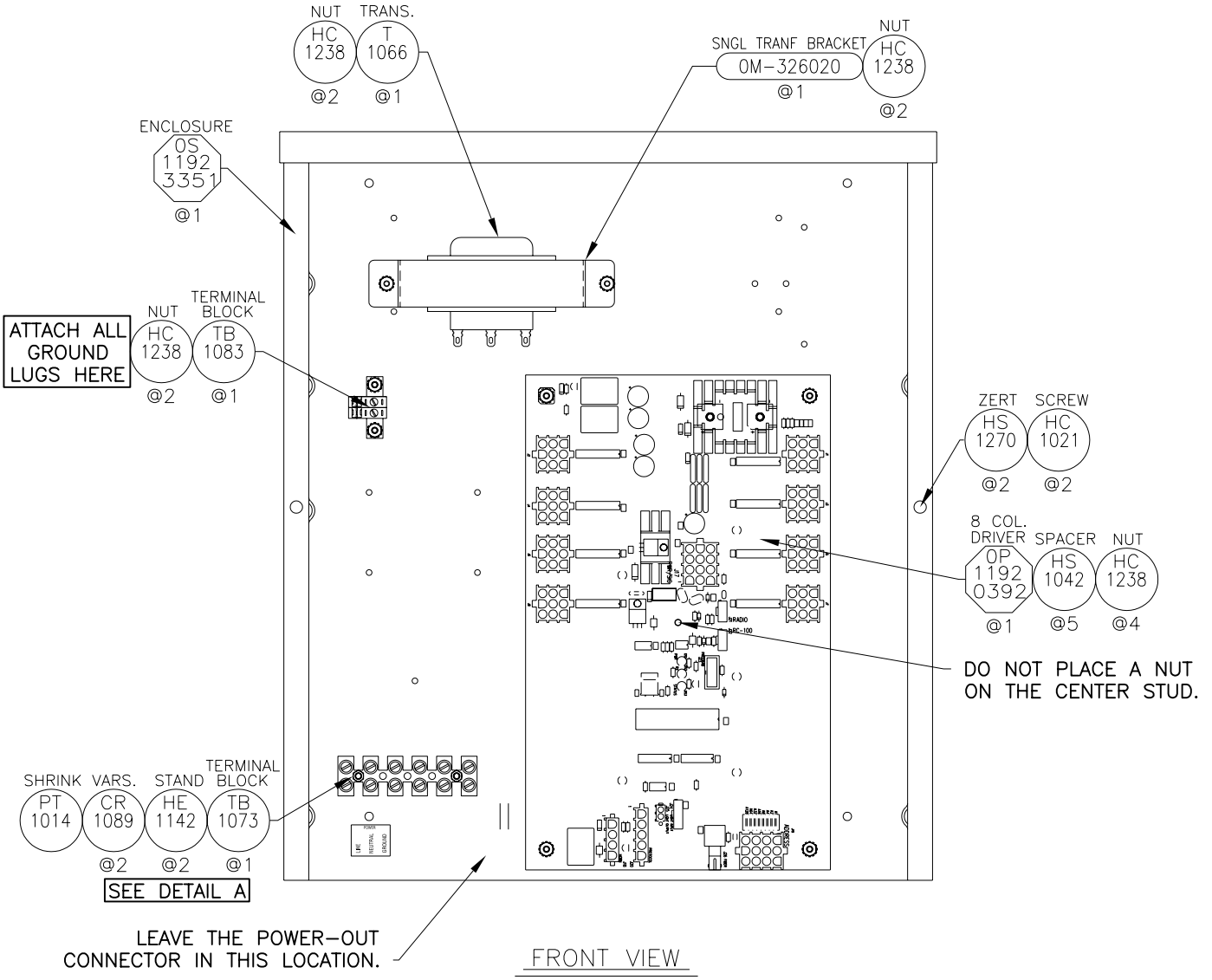
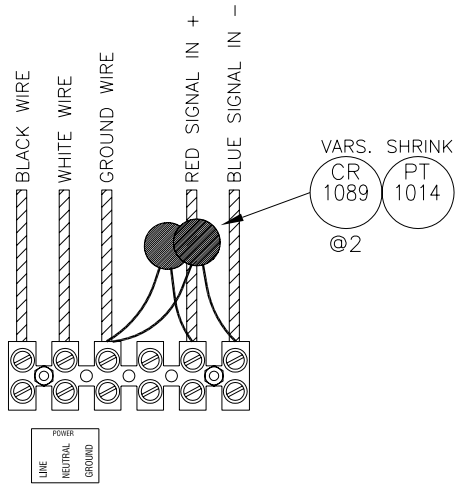
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS
TITLE: DRIVER: GEN IV LC OUTDOOR LED- 16 COL
DES. BY: BCURTIS DRAWN BY: BCURTIS DATE: 21 SEPT 06
REVISION 05 APPR. BY: SCALE: 1=4
1192-E10A-285469



FRONT VIEW



DETAIL: A
(SCALE 1=1.5)

ASSEMBLY PACKETS

0A-1192-4256...DRIVER; GEN IV LC OUTDOOR LED, 8 COL
.0S-1192-3351...ENCLOSURE; GEN IV OUTDOOR LED DRIVER

REV.	DATE	DESCRIPTION	BY	APPR.
04	22 APR 08	ADDED VARISTOR AND SHRINK PER ECO 0469764	AMG	
03	04 DEC 07	REMOVED CABLE ANCHORS AND RIVETS.	BJC	
02	20 NOV 07	ADDED SNGL TRANSF BRACKET 0M-326020	KDD	
01	10 SEP 07	ADDED PWR/SIGNAL LABLES BELOW TERMINAL BLOCK.	BJC	

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DAKTRONICS, INC. BROOKINGS, SD 57006

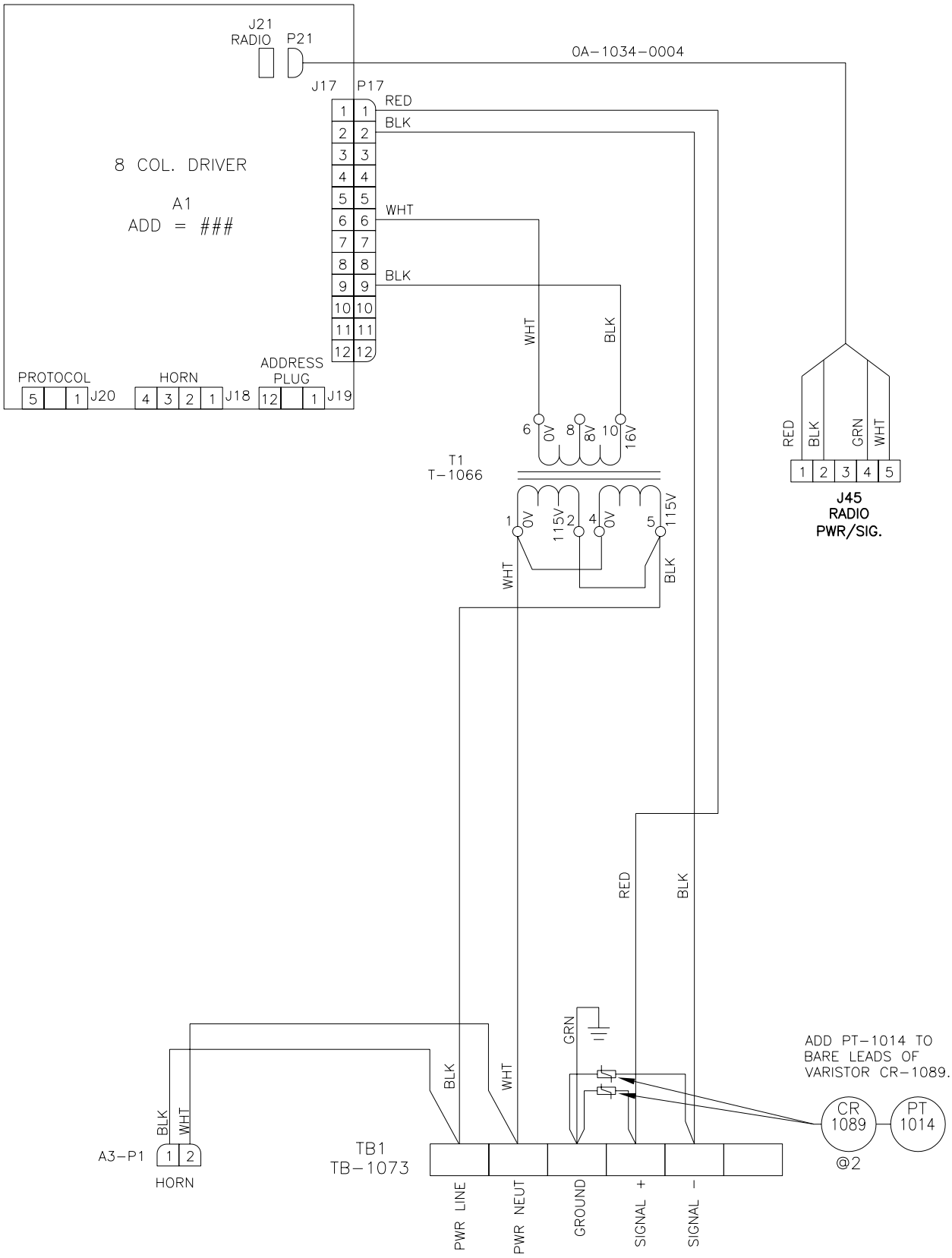
PROJ: OUTDOOR LED SCOREBOARDS

TITLE: DRIVER: GEN IV LC OUTDOOR LED- 8 COL

DES. BY: BCURTIS DRAWN BY: BCURTIS DATE: 21 SEPT 06

REVISION 04 APPR. BY: SCALE: 1=4

1192-E10A-285470



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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

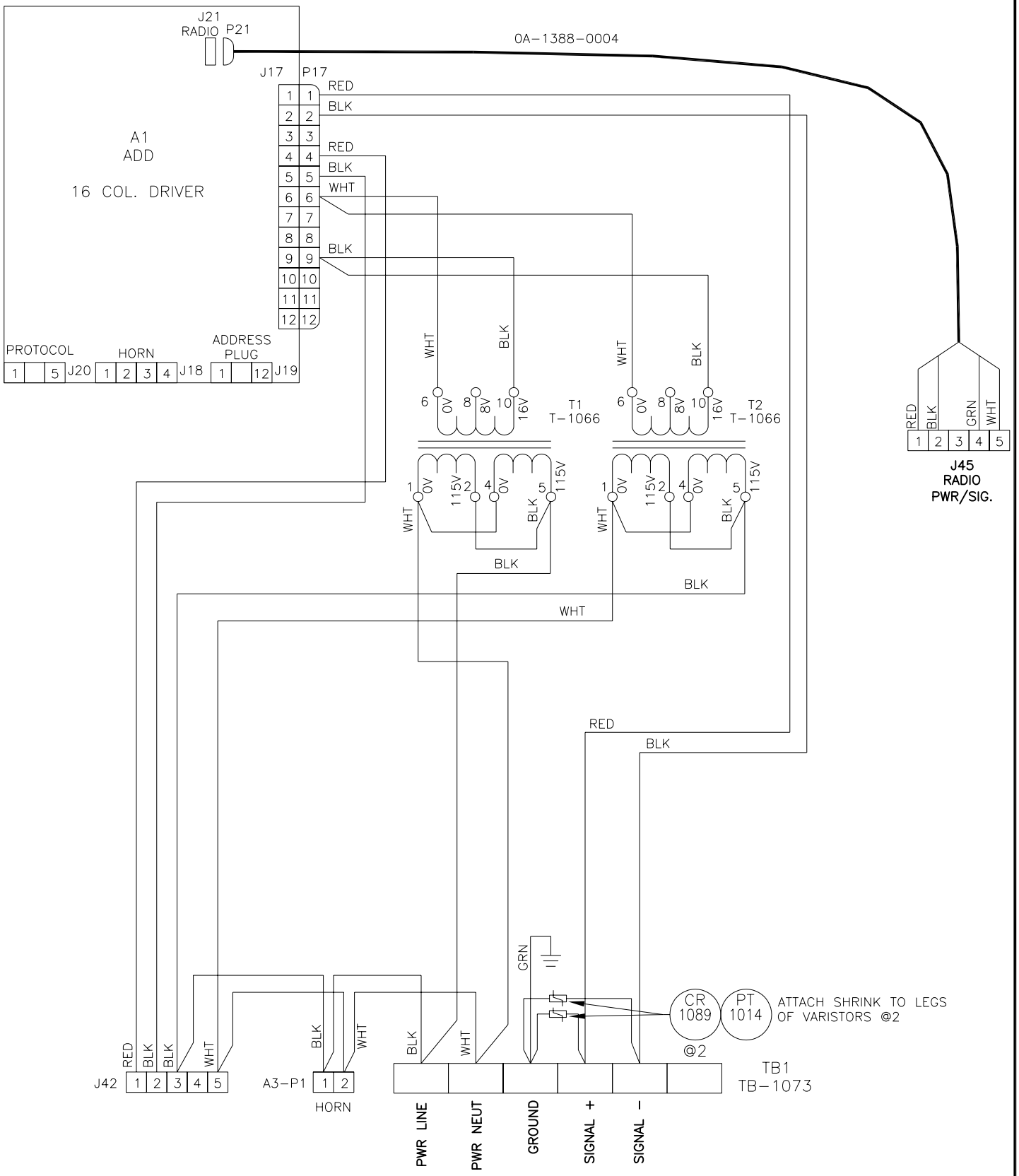
TITLE: SCHEMATIC: XFMR 8 COL- GEN IV- DISTAVIEW LED

DES. BY: DRAWN BY: DDINING DATE: 26 SEPT 06

REVISION 01 | APPR. BY: MMILLER | SCALE: NONE

1192-R03A-285892

REV.	DATE	DESCRIPTION	BY	APPR.



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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: SCHEMATIC: XFMR 16 COL– GEN IV– DISTAVIEW LED

DES. BY: DRAWN BY: DDINING DATE: 5 OCT 06

REVISION 01 | APPR. BY: MMILLER | SCALE: NONE

1192-R03A-286657

REV.	DATE	DESCRIPTION	BY	APPR.
01	22 APR 08	ADDED PT–1014 PER ECO 049764	AMG	

DECIMAL ADDRESS	DIP SWITCH ADDRESS SETTING							
	SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
01	0	0	0	0	0	0	0	1
02	0	0	0	0	0	0	1	0
03	0	0	0	0	0	0	1	1
04	0	0	0	0	0	1	0	0
05	0	0	0	0	0	1	0	1
06	0	0	0	0	0	1	1	0
07	0	0	0	0	0	1	1	1
08	0	0	0	0	1	0	0	0
09	0	0	0	0	1	0	0	1
10	0	0	0	0	1	0	1	0
11	0	0	0	0	1	0	1	1
12	0	0	0	0	1	1	0	0
13	0	0	0	0	1	1	0	1
14	0	0	0	0	1	1	1	0
15	0	0	0	0	1	1	1	1
16	0	0	0	1	0	0	0	0

DECIMAL ADDRESS	DIP SWITCH ADDRESS SETTING							
	SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
33	0	0	1	0	0	0	0	1
34	0	0	1	0	0	0	1	0
35	0	0	1	0	0	0	1	1
36	0	0	1	0	0	1	0	0
37	0	0	1	0	0	1	0	1
38	0	0	1	0	0	1	1	0
39	0	0	1	0	0	1	1	1
40	0	0	1	0	1	0	0	0
41	0	0	1	0	1	0	0	1
42	0	0	1	0	1	0	1	0
43	0	0	1	0	1	0	1	1
44	0	0	1	0	1	1	0	0
45	0	0	1	0	1	1	0	1
46	0	0	1	0	1	1	1	0
47	0	0	1	0	1	1	1	1
48	0	0	1	1	0	0	0	0

DECIMAL ADDRESS	DIP SWITCH ADDRESS SETTING							
	SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
65	0	1	0	0	0	0	0	1
66	0	1	0	0	0	0	1	0
67	0	1	0	0	0	0	1	1
68	0	1	0	0	0	1	0	0
69	0	1	0	0	0	1	0	1
70	0	1	0	0	0	1	1	0
71	0	1	0	0	0	1	1	1
72	0	1	0	0	1	0	0	0
73	0	1	0	0	1	0	0	1
74	0	1	0	0	1	0	1	0
75	0	1	0	0	1	0	1	1
76	0	1	0	0	1	1	0	0
77	0	1	0	0	1	1	0	1
78	0	1	0	0	1	1	1	0
79	0	1	0	0	1	1	1	1
80	0	1	0	1	0	0	0	0

DECIMAL ADDRESS	DIP SWITCH ADDRESS SETTING							
	SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
97	0	1	1	0	0	0	0	1
98	0	1	1	0	0	0	1	0
99	0	1	1	0	0	0	1	1
100	0	1	1	0	0	1	0	0
101	0	1	1	0	0	1	0	1
102	0	1	1	0	0	1	1	0
103	0	1	1	0	0	1	1	1
104	0	1	1	0	1	0	0	0
105	0	1	1	0	1	0	0	1
106	0	1	1	0	1	0	1	0
107	0	1	1	0	1	0	1	1
108	0	1	1	0	1	1	0	0
109	0	1	1	0	1	1	0	1
110	0	1	1	0	1	1	1	0
111	0	1	1	0	1	1	1	1
112	0	1	1	1	0	0	0	0

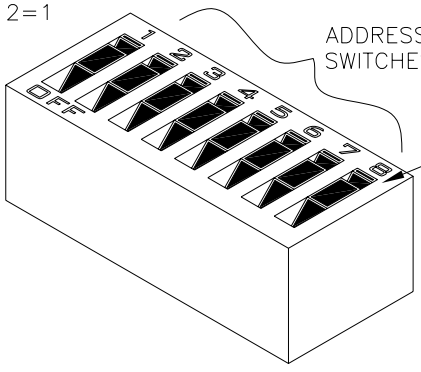
DECIMAL ADDRESS	DIP SWITCH ADDRESS SETTING							
	SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
17	0	0	0	1	0	0	0	1
18	0	0	0	1	0	0	1	0
19	0	0	0	1	0	0	1	1
20	0	0	0	1	0	1	0	0
21	0	0	0	1	0	1	0	1
22	0	0	0	1	0	1	1	0
23	0	0	0	1	0	1	1	1
24	0	0	0	1	1	0	0	0
25	0	0	0	1	1	0	0	1
26	0	0	0	1	1	0	1	0
27	0	0	0	1	1	0	1	1
28	0	0	0	1	1	1	0	0
29	0	0	0	1	1	1	0	1
30	0	0	0	1	1	1	1	0
31	0	0	0	1	1	1	1	1
32	0	0	1	0	0	0	0	0

DECIMAL ADDRESS	DIP SWITCH ADDRESS SETTING							
	SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
49	0	0	1	1	0	0	0	1
50	0	0	1	1	0	0	1	0
51	0	0	1	1	0	0	1	1
52	0	0	1	1	0	1	0	0
53	0	0	1	1	0	1	0	1
54	0	0	1	1	0	1	1	0
55	0	0	1	1	0	1	1	1
56	0	0	1	1	1	0	0	0
57	0	0	1	1	1	0	0	1
58	0	0	1	1	1	0	1	0
59	0	0	1	1	1	0	1	1
60	0	0	1	1	1	1	0	0
61	0	0	1	1	1	1	0	1
62	0	0	1	1	1	1	1	0
63	0	0	1	1	1	1	1	1
64	0	1	0	0	0	0	0	0

DECIMAL ADDRESS	DIP SWITCH ADDRESS SETTING							
	SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
81	0	1	0	1	0	0	0	1
82	0	1	0	1	0	0	1	0
83	0	1	0	1	0	0	1	1
84	0	1	0	1	0	1	0	0
85	0	1	0	1	0	1	0	1
86	0	1	0	1	0	1	1	0
87	0	1	0	1	0	1	1	1
88	0	1	0	1	1	0	0	0
89	0	1	0	1	1	0	0	1
90	0	1	0	1	1	0	1	0
91	0	1	0	1	1	0	1	1
92	0	1	0	1	1	1	0	0
93	0	1	0	1	1	1	0	1
94	0	1	0	1	1	1	1	0
95	0	1	0	1	1	1	1	1
96	0	1	1	0	0	0	0	0

DECIMAL ADDRESS	DIP SWITCH ADDRESS SETTING							
	SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
113	0	1	1	1	0	0	0	1
114	0	1	1	1	0	0	1	0
115	0	1	1	1	0	0	1	1
116	0	1	1	1	0	1	0	0
117	0	1	1	1	0	1	0	1
118	0	1	1	1	0	1	1	0
119	0	1	1	1	0	1	1	1
120	0	1	1	1	1	0	0	0
121	0	1	1	1	1	0	0	1
122	0	1	1	1	1	0	1	0
123	0	1	1	1	1	0	1	1
124	0	1	1	1	1	1	0	0
125	0	1	1	1	1	1	0	1
126	0	1	1	1	1	1	1	0
127	0	1	1	1	1	1	1	1
128	1	0	0	0	0	0	0	0

S1–ADDRESS DIP SWITCH
SCALE 2=1



NOTES:

0 = OFF, 1 = ON.

TO TURN SWITCH ON, PRESS DOWN ON THE TOP SIDE OF THE SWITCH ROCKING IT TO THE OTHER POSITION.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

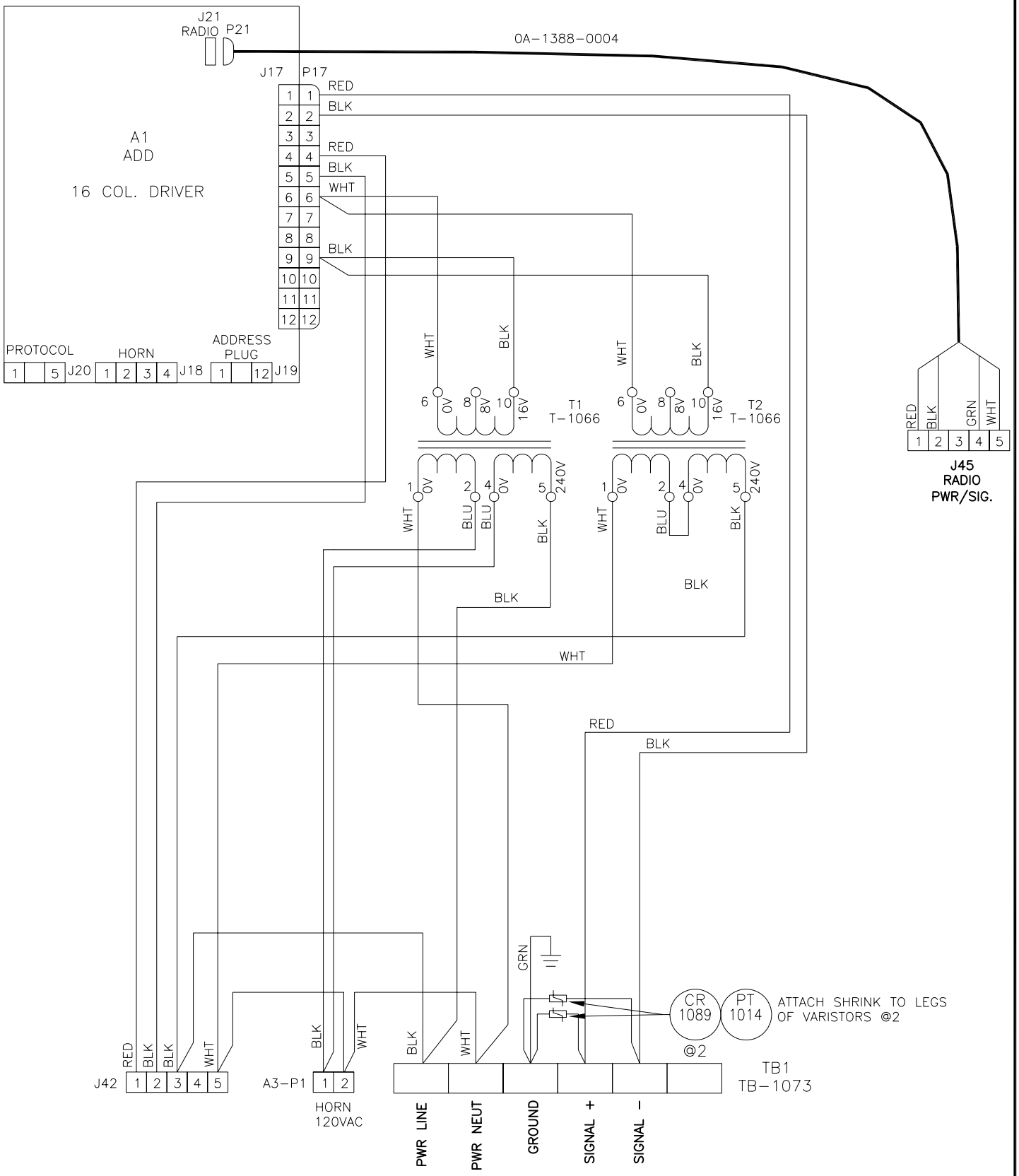
TITLE: ADDRESS TABLE 1; GEN IV DRIVER ADDRESS DIP SWITCH

DES. BY: MMILLER DRAWN BY: MMILLER DATE: 16 NOV 06

REVISION 00 | APPR. BY: | SCALE: 1 = 1

1192-R10A-290261

REV.	DATE	DESCRIPTION	BY	APPR.



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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: SCHEM.240V (LC) XFMR 16 COL GEN IV OUTDOOR DRIVER

DES. BY: DRAWN BY: DDINING DATE: 23 SEP 08

REVISION 00 | APPR. BY: | SCALE: NONE

1192-R03A-704861

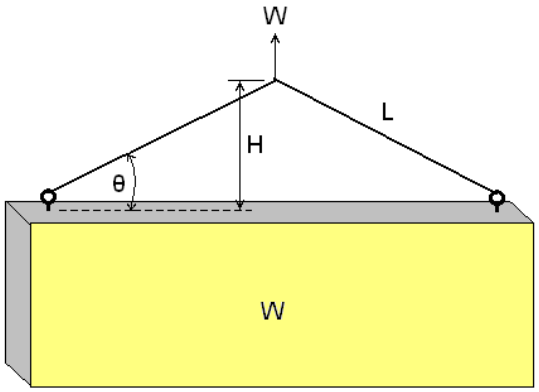
REV.	DATE	DESCRIPTION	BY	APPR.

Appendix B: Eyebolts

Eyebolts

Almost every display that leaves Daktronics is equipped with eyebolts for lifting the display. There are two standard sizes of eyebolts: ½″ and ⅝″.

Load Increase Factor: The load increases as the lift angle (θ) decreases. The allowable load on the eyebolts also decreases with the lift angle due the bending stress on the eyebolts. In sum, the smaller the angle between the cable and the top of the display, the lighter the sign must be to safely lift it. *Do NOT attempt to lift the display when the lift angle is less than 30 degrees.*



W= Weight of sign or Section

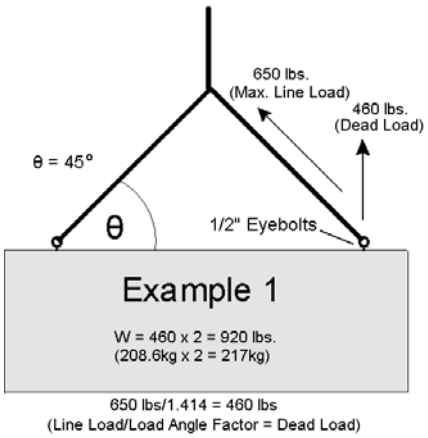
H= Distance between top of sign and lift point

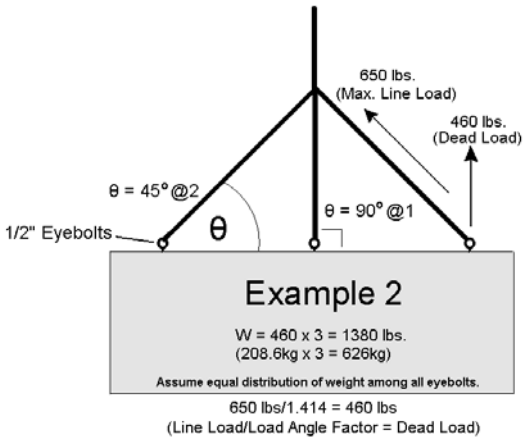
L= Length of cable on one side

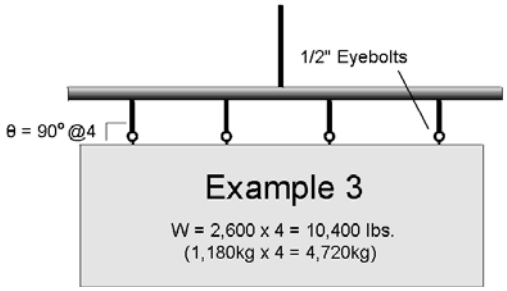
θ = Angle between sign and cable

Horizontal Angle	Load Angle Factor (L/H)
90	1.00
60	1.155
50	1.305
45	1.414
30	2.00

	½"		⅝"	
θ	Line Load	Weight/ Anchor	Line Load	Weight/ Anchor
90	2600	2600	4000	4000
60	1500	1299	3300	2858
45	650	460	1000	707
30	520	260	800	400







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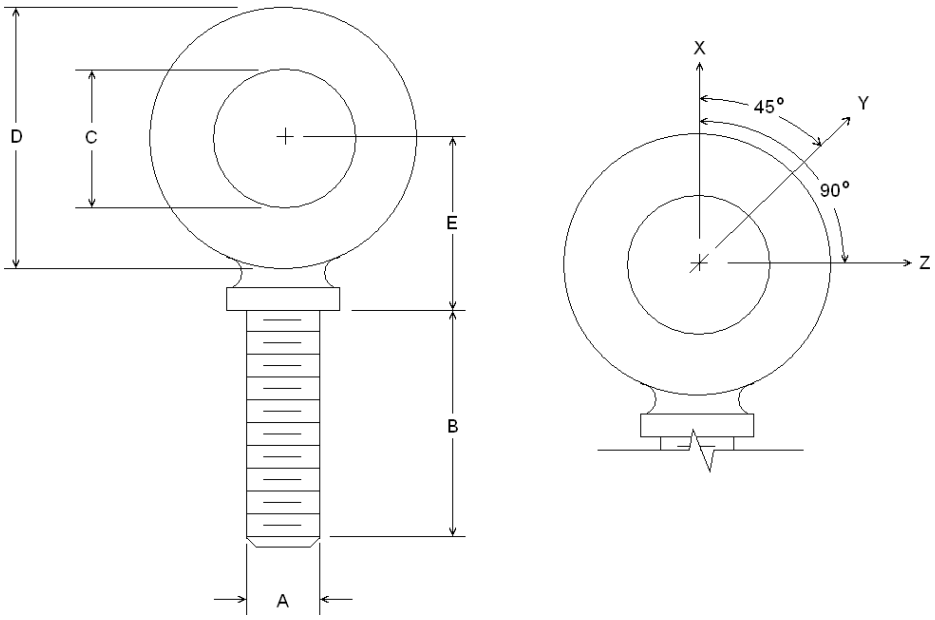

A	B	C	D	E	No.	Min. Proof Load (lbs.)	Min. Break Load (lbs.)	Stocked	Min. Eff. Thrd. Length	Line Loads		
										Wx	Wy	Wz
1/4	1	3/4	1-3/16	25/32	21	600	2,000	Blank 1/4-20	7/8	400	100	80
3/8	1-1/4	1	1-21/32	1-3/16	23	2,100	5,000	Blank 3/8-16	1-1/8	1,400	350	250
1/2	**1-1/2**	**1-3/16**	**2-1/16**	**1-13/32**	**25**	**3,900**	**9,200**	**Blank 1/2-13**	**1-11/32**	**2,600**	**650**	**520**
9/16	1-5/8	1-9/32	2-13/16	1-17/32	26	4,500	11,830	Blank 9/16-12	1-3/8	3,000	750	600
5/8	**1-3/4**	**1-3/8**	**2-1/2**	**1-11/16**	**27**	**6,000**	**14,700**	**Blank 5/8-11**	**1-9/16**	**4,000**	**1,000**	**800**
3/4	2	1-1/2	2-13/16	1-13/16	28	9,000	21,700	Blank 3/4-10	1-5/8	6,000	1,500	1,200
7/8	2-1/4	1-11/16	3-1/4	2-1/16	29	10,000	30,000	Blank 7/8-9	1-13/16	6,600	1,670	1,330
1	2-1/2	1-13/16	3-9/16	2-5/16	30	12,000	39,400	Blank 1-8	2-1/16	8,000	2,000	1,600
1-1/2	3-1/2	2-9/16	5-1/2	3-5/32	34	27,000	91,300	Blank 1-1/2-6	3	17,800	4,500	3,600

A. Do not use eyebolts on angular lifts unless absolutely necessary. For angular lifts, the shoulder pattern eyebolt is preferred.

B. Load should always be applied to eyebolts in the plane of the eye, not at some angle to this plane.

C. Shoulder eyebolts must be properly seated (should bear firmly against the mating part), otherwise the working loads must be reduced to those indicated for regular eyebolts. A washer or spacer may be required to put the plane of the eye in the direction of the load when the shoulder is seated.

D. No load greater than the safe working load listed in the data table should be used.

E. To obtain the greatest strength from the eyebolt, it must fit reasonably tight in its mounting hole to prevent accidental unscrewing due to twist of cable.

F. Eyebolts should never be painted or otherwise coated when used for lifting. Such coatings may cover potential flaws in the eyebolt.

G. To attain the safe working loads listed for regular eyebolts, 90% of the thread length must be engaged.

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Appendix C: Daktronics Warranty and Limitation of Liability

DAKTRONICS
WARRANTY AND 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 agrees to be bound by and accept these terms and conditions. All defined 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 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 Purchaser 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. 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 either Purchaser or Daktronics.

C. Daktronics shall pay ground transportation charges for the return of any defective component of the Equipment. If returned Equipment is repaired or replaced under the terms of this warranty, Daktronics will prepay ground transportation charges back to Purchaser; otherwise, Purchaser shall pay transportation charges to return the Equipment back to the Purchaser. All returns must be pre-approved by Daktronics before shipment. Daktronics shall not be obligated to pay freight for any unapproved return. Purchaser 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 this 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. The limited warranty provided by Daktronics does not impose any duty or liability upon Daktronics for partial LED pixel degradation. Nor does the limited warranty 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.

THIS LIMITED WARRANTY IS THE ONLY WARRANTY APPLICABLE TO THE EQUIPMENT AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FINTESS FOR A PARTICULAR PURPOSE. SPECIFICALLY, EXCEPT AS PROVIDED HEREIN, THE SELLER UNDERTAKES NO RESPONSIBILITY FOR THE QUALITY OF THE EQUIPMENT OR THAT THE EQUIPMENT WILL BE FIT FOR ANY PARTICULAR PURPOSE FOR WHICH PURCHASER MAY BE BUYING THE EQUIPMENT. ANY IMPLIED WARRANTY IS LIMITED IN DURATION TO THE WARRANTY PERIOD. NO ORAL OR WRITTEN INFORMATION, OR ADVICE GIVEN BY THE COMPANY, ITS AGENTS OR EMPLOYEES, SHALL 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

The limited warranty provided by Daktronics does not impose any duty or liability upon Daktronics for:

A Any 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, Purchaser assumes all risk of loss or damage, and agrees to use any shipping containers that might be provided by Daktronics and to ship the Equipment in the manner prescribed by Daktronics;

B. Any damage caused by the unauthorized adjustment, repair or service of the Equipment by anyone other than 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) a failure or sudden surge of electrical power, (iii) improper air conditioning or humidity control, 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. Any statements made about the product by salesmen, dealers, distributors or agents, 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 Purchaser and are not part of the contract of sale;

G. Any 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; or

H. Any performance of preventive maintenance.

3. Limitation of Liability

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

It is specifically agreed that the price of the Equipment is based upon the following limitation of liability. In no event shall Daktronics (including its subsidiaries, affiliates, officers, directors, employees, or agents) be liable for any 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, lost data, injury to property or any damages or sums paid by Purchaser to third parties, even if Daktronics has been advised of the possibility of such damages. The foregoing limitation of liability shall apply whether any claim is based upon principles of contract, tort or statutory duty, principles of indemnity or contribution, or otherwise.

In no event shall Daktronics be liable to Purchaser or any other party 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 actually delivered to and paid for by the Purchaser. The Purchaser's remedy in any dispute under this Warranty shall be ultimately limited to the Purchase Price of the Equipment to the extent the Purchase Price has been paid.

4. Assignment of Rights

The Warranty contained herein extends only to the original 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. Dispute Resolution

Any dispute between the parties will be resolved exclusively and finally by arbitration administered by the American Arbitration Association ("AAA") and conducted under its rules, except as otherwise provided below. The arbitration will be conducted before a single arbitrator. The arbitration shall be held in Brookings, South Dakota. Any decision rendered in such arbitration proceedings will be final and binding on each of the parties, and judgment may be entered thereon in any court of competent jurisdiction. This arbitration agreement is made pursuant to a transaction involving interstate commerce, and shall be governed by the Federal Arbitration Act.

6. Governing Law

The rights and obligations of the parties under this warranty shall not be governed by the provisions of the United Nations Convention on Contracts for the International Sales of Goods of 1980. Both parties consent to the application of the laws of the State of South Dakota to govern, interpret, and enforce all of Purchaser and Daktronics 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.

7. Availability of Extended Service Agreement

For Purchaser's protection, in addition to that afforded by the warranties set forth herein, Purchaser 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 1-877-605-1116.