

Multi-Section Outdoor LED Scoreboards

Display Manual

ED-17610

Rev 10 – 23 September 2011

DAKTRONICS

Models		
	BA-1518	FB-2025
*	BA-1524	FB-2026
*	BA-2013	FB-2027
*	BA-3718	FB-3010
*	BA-3724	MS-2009
	FB-2018	MS-2918
	FB-2019	SO-2011
	FB-2020	SO-2018
	FB-2021	SO-2019
	FB-2022	SO-2021
	FB-2023	* SO-2022
	FB-2024	SO-2023

*Discontinued

Please fill in the information below to use for reference when calling Daktronics for assistance.

Display Serial No. _____

Display Model No. _____

Date Installed _____

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Section 1: Introduction

This manual explains the installation of Daktronics multi-section outdoor LED scoreboards and provides details for maintenance and troubleshooting. For additional information regarding the safety, installation, operation, or service of this system, refer to the telephone numbers listed in **Section 7**. This manual is not specific to a particular installation.

Important Safeguards:

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

Project-specific information takes precedence over any other general information found in this manual.

1.1 Resources

Figure 1 illustrates a Daktronics drawing label. The drawing number is located in the lower-right corner of a drawing. This manual refers to drawings by listing the last set of digits and the letter preceding them. In the example, the drawing would be referred to as **Drawing C-325405**.

THE CONCEPTS EXPRESSED AND DETAILS SHOWN IN THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY, WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2008 DAKTRONICS, INC.			
DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: DAKTRONICS UNIVERSITY			
TITLE: SYSTEM RISER DIAGRAM			
DES. BY: AORMESH		DRAWN BY: AORMESH	
		DATE: 15 JAN 08	
REVISION	APPR BY-	14963-R01	
00	SCALE: NONE	C-325405	

Figure 1: Daktronics Drawing Label

Reference Drawing:

System Riser Diagram **Drawing C-325405**

Daktronics identifies manuals by the DD or ED number located on the cover page of each manual. For example, this manual would be referred to as **ED-17610**.

1.2 Daktronics Nomenclature

Serial and model numbers can be found on the ID label on the display as shown in **Figure 2**.

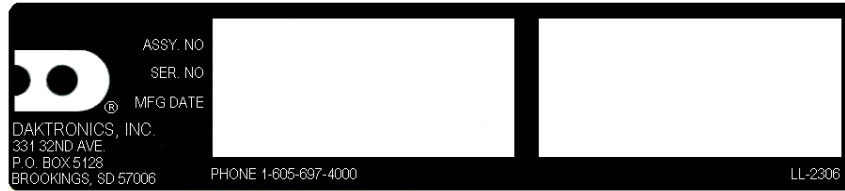


Figure 2: Scoreboard ID Label

Please list the model number, display serial number, and the date this display became operational in the blanks provided on the second page of this manual. When calling Daktronics customer service, please have this information available to ensure the request is serviced as quickly as possible.

Most components within this display carry a white label that lists the part number of the unit. If a component is not found in the Replacement Parts List in **Section 5.13**, use the label to order a replacement. **Figure 3** illustrates a typical label. The part number is in bold.

Main Component Labels	
<i>Part Type</i>	<i>Part Number</i>
Individual circuit board	0P-XXXX-XXXX
Assembly; a collection of circuit boards	0A-XXXX-XXXX
Wire or cable	W-XXXX
Fuse	F-XXXX
Transformer	T-XXXX
Metal part	M-XXX
Fabricated metal assembly	0S-XXXXXX
Specially ordered part	PR-XXXXX-X

Accessory Labels	
<i>Component</i>	<i>Label</i>
Termination block for power or signal cable	<u>TBXX</u>
Grounding point	<u>EXX</u>
Power or signal jack	<u>JXX</u>
Power or signal plug for the opposite jack	<u>PXX</u>

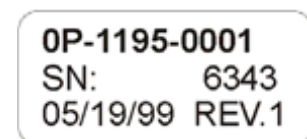


Figure 3: Typical Label

Following the Replacement Parts List is the Daktronics Exchange Policy and the Repair & Return Program. Refer to these instructions if replacing or repairing any display component.

1.3 Model Number

Daktronics scoreboards are differentiated by their model numbers and two-letter prefixes for each sport. Most Daktronics scoreboards also carry a two-number suffix that refers to the type of power supply and digit color. Refer to the following tables:

BA	Baseball
FB	Football
MS	Multisport
SO	Soccer

-11	120 V, with red digits
-21	120 V, with amber digits
-12	240 V, with red digits
-22	240 V, with amber digits
-41	120 V, with white digits

1.4 Scoreboard Controllers

Daktronics outdoor scoreboards are designed for use with the All Sport® 5000 series control consoles. Scoreboards with 5 or 6-digit clocks may also be controlled via the OmniSport® 2000 console for track timing. Both consoles use keyboard overlays (sport inserts) to control numerous sports and scoreboard models. Refer to the following manuals for operating instructions:

- **All Sport 5000 Series Control Console Operation Manual (ED-11976)**
- **OmniSport 2000 Timing Console Operations Manual (ED-13312)**

These control console manuals are available online at www.daktronics.com/manuals.

1.5 Product Safety Approval

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

Section 2: Specifications

The chart on the following pages details all of the mechanical specifications, circuit specifications and power requirements for each display in this manual. Models are listed in alphanumeric order.

Notes:

- 1) All displays require a 120 V AC, 15 A circuit; 240 V AC power also available
- 2) TNMC and electronic caption LEDs are typically the same color as the LED digits on the scoreboard. Backlit captions use 120 V AC circular florescent bulbs.
- 3) Watts and Amps in [brackets] indicate separate power specs for white LED digits.

Model & Options	Number of Sections	Dimensions: Height, Width, Depth	Weight	Watts	Amps 120 / 240 V AC	Driver # & Address
BA-1518	2 Total	H 8'-0", W 16'-0", D 6" (2438 mm, 4877 mm, 152 mm)	400 lb (182 kg)	300 W [450 W]	2.5 A / 1.25 A [3.8 A / 1.9 A]	A1 63
	Top & Bottom	H 4'-0", W 16'-0", D 6" (1219 mm, 4877 mm, 152 mm)				
w/TNMC	(same)	(same)	480 lb (218 kg)	600 W [750 W]	5 A / 2.5 A [6.3 A / 3.1 A]	TNMC 221
BA-1524	2 Total	H 9'-0", W 16'-0", D 6" (2743 mm, 4877 mm, 152 mm)	450 lb (204 kg)	300 W [600 W]	2.5 A / 1.25 A [5 A / 2.5 A]	A1 63
	Top	H 4'-0", W 16'-0", D 6" (1219 mm, 4877 mm, 152 mm)				
	Bottom	H 5'-0", W 16'-0", D 6" (1524 mm, 4877 mm, 152 mm)				
w/TNMC	(same)	(same)	530 lb (240 kg)	600 W [900 W]	5 A / 2.5 A [7.5 A / 3.75 A]	TNMC 221
BA-2013	4 Total	H 9'-4", W 36'-0", D 6" (2845 mm, 10973 mm, 152 mm)	840 lb (382 kg)	1500 W	12.5 A / 6.25 A	A1 64 A2 65 A3 66 A4 01 A5 01
	Top 2	H 4'-0", W 18'-0", D 6" (1219 mm, 5486 mm, 152 mm)				
	Bottom 2	H 5' -4", W 18'-0", D 6" (1626 mm, 5486 mm, 152 mm)				
w/TNMC	(same)	(same)	960 lb (436 kg)	1800 W	15 A / 7.5 A	TNMC 221
BA-3718	4 Total	H 7'-0", W 28'-0", D 6" (2134 mm, 8534 mm, 152 mm)	640 lb (291 kg)	900 W	7.5 A / 3.75 A	A1 64 A2 65 A3 66
	Top 2	H 3'-0", W 14'-0", D 6" (914 mm, 4267 mm, 152 mm)				
	Bottom 2	H 4' -0", W 14'-0", D 6" (1219 mm, 4267 mm, 152 mm)				
w/TNMC	(same)	(same)	720 lb (327 kg)	1200 W	10 A / 5 A	TNMC 221

Model & Options	Number of Sections	Dimensions: Height, Width, Depth	Weight	Watts	Amps 120 / 240 V AC	Driver # & Address
BA-3724	4 Total	H 9'-4", W 36'-0", D 6" (2845 mm, 10973 mm, 152 mm)	840 lb (382 kg)	900 W	7.5 A / 3.75 A	A1 64
	Top 2	H 4'-0", W 18'-0", D 6" (1219 mm, 5486 mm, 152 mm)				A2 65
	Bottom 2	H 5'-4", W 18'-0", D 6" (1626 mm, 5486 mm, 152 mm)				A3 66
w/TNMC	(same)	(same)	960 lb (436 kg)	1200 W	10 A / 5 A	TNMC 221
FB-2018 FB-2019 FB-2020	2 Total	H 8'-0", W 18'-0", D 6" (2438 mm, 5486 mm, 152 mm)	565 lb (256 kg)	600 W	5 A / 2.5 A	A1 15
	Top & Bottom	H 4'-0", W 18'-0", D 6" (1219 mm, 5486 mm, 152 mm)				A2 19
w/TNMC	(same)	(same)	645 lb (293 kg)	900 W	7.5 A / 3.75 A	TNMC 221
w/TNMC + Electronic Captions	(same)	(same)	805 lb (365 kg)	1200 W	10 A / 5 A	Electronic Captions 227
w/Backlit Captions (Top & Bottom)	(same)	(same)	625 lb (283 kg)	1500 W	12.5 A (120 V AC only)	A1 15 A2 19
FB-2021 FB-2022 FB-2023	2 Total	H 8'-0", W 25'-0", D 6" (2438 mm, 7620 mm, 152 mm)	815 lb (370 kg)	600 W	5 A / 2.5 A	A1 15
	Top & Bottom	H 4'-0", W 25'-0", D 6" (1219 mm, 7620 mm, 152 mm)				A2 19
w/TNMC	(same)	(same)	935 lb (424 kg)	900 W	7.5 A / 3.75 A	TNMC 221
w/TNMC + Electronic Captions	(same)	(same)	1095 lb (496 kg)	1200 W	10 A / 5 A	Electronic Captions 227
w/Backlit Captions (Top & Bottom)	(same)	(same)	875 lb (396 kg)	1500 W	12.5 A (120 V AC only)	A1 15 A2 19
FB-2024	2 Total	H 8'-0", W 32'-0", D 6" (2438 mm, 9754 mm, 152 mm)	720 lb (327 kg)	600 W	5 A / 2.5 A	A1 15
	Top & Bottom	H 4'-0", W 32'-0", D 6" (1219 mm, 9754 mm, 152 mm)				A2 19
w/TNMC	(same)	(same)	840 lb (381 kg)	900 W	7.5 A / 3.75 A	TNMC 221

Model & Options	Number of Sections	Dimensions: Height, Width, Depth	Weight	Watts	Amps 120 / 240 V AC	Driver # & Address
w/TNMC + Electronic Captions	(same)	(same)	1080 lb (489 kg)	1200 W	10 A / 5 A	Electronic Captions 227 T.O.L. 225
w/Backlit Captions (Top & Bottom)	(same)	(same)	800 lb (362 kg)	1500 W	12.5 A (120 V AC only)	A1 15 A2 19
FB-2025	2 Total Top & Bottom	H 8'-0", W 32'-0", D 6" (2438 mm, 9754 mm, 152 mm) H 4'-0", W 32'-0", D 6" (1219 mm, 9754 mm, 152 mm)	780 lb (353 kg)	600 W	5 A / 2.5 A	A1 15 A2 19
w/TNMC	(same)	(same)	900 lb (408 kg)	900 W	7.5 A / 3.75 A	TNMC 221
w/TNMC + Electronic Captions	(same)	(same)	1140 lb (517 kg)	1200 W	10 A / 5 A	Electronic Captions 227 T.O.L. 225
w/Backlit Captions (Top & Bottom)	(same)	(same)	860 lb (390 kg)	1500 W	12.5 A (120 V AC only)	A1 15 A2 19
FB-2026	2 Total Top Bottom	H 10'-0", W 32'-0", D 6" (3048 mm, 9754 mm, 152 mm) H 6'-0", W 32'-0", D 6" (1829 mm, 9754 mm, 152 mm) H 4'-0", W 32'-0", D 6" (1219 mm, 9754 mm, 152 mm)	880 lb (400 kg)	600 W	5 A / 2.5 A	A1 15 A2 19
w/TNMC	(same)	(same)	1000 lb (454 kg)	900 W	7.5 A / 3.75 A	TNMC 221
w/TNMC + Electronic Captions	(same)	(same)	1240 lb (562 kg)	1200 W	10 A / 5 A	Electronic Captions 227 T.O.L. 225
w/Backlit Captions (Top & Bottom)	(same)	(same)	940 lb (426 kg)	1500 W	12.5 A (120 V AC only)	A1 15 A2 19
FB-2027	2 Total Top Bottom	H 10'-0", W 32'-0", D 6" (3048 mm, 9754 mm, 152 mm) H 6'-0", W 32'-0", D 6" (1829 mm, 9754 mm, 152 mm) H 4'-0", W 32'-0", D 6" (1219 mm, 9754 mm, 152 mm)	940 lb (426 kg)	600 W	5 A / 2.5 A	A1 15 A2 19

Model & Options	Number of Sections	Dimensions: Height, Width, Depth	Weight	Watts	Amps 120 / 240 V AC	Driver # & Address
w/TNMC	(same)	(same)	1060 lb (481 kg)	900 W	7.5 A / 3.75 A	TNMC 221
w/TNMC + Electronic Captions	(same)	(same)	1300 lb (590 kg)	1200 W	10 A / 5 A	Electronic Captions 227 T.O.L. 225
w/Backlit Captions (Top & Bottom)	(same)	(same)	1020 lb (462 kg)	1500 W	12.5 A (120 V AC only)	A1 15 A2 19
FB-3010 w/TNMC	2 Total Top & Bottom	H 8'-0", W 18'-0", D 6" (2438 mm, 5486 mm, 152 mm) H 4'-0", W 18'-0", D 6" (1219 mm, 5486 mm, 152 mm)	600 lb (272 kg)	1200 W	5 A (240 V AC only)	A1 1 A2 11 TNMC 221
MS-2009	2 Total Top Bottom	H 10'-0", W 25'-0", D 6" (3048 mm, 7620 mm, 152 mm) H 4'-6", W 25'-0", D 6" (1371 mm, 7620 mm, 152 mm) H 5'-6", W 25'-0", D 6" (1676 mm, 7620 mm, 152 mm)	770 lb (349 kg)	600 W	5 A / 2.5 A	A1 71 A2 72
w/TNMC	(same)	(same)	890 lb (404 kg)	900 W	7.5 A / 3.75 A	TNMC 221
w/TNMC + Electronic Captions	(same)	(same)	1130 lb (513 kg)	1200 W	10 A / 5 A	Electronic Captions 223
MS-2918	2 Total Top & Bottom	H 8'-0", W 16'-0", D 6" (2438 mm, 4877 mm, 152 mm) H 4'-0", W 16'-0", D 6" (1219 mm, 4877 mm, 152 mm)	480 lb (218 kg)	600 W	5 A / 2.5 A	A1 71 A2 72
w/TNMC	(same)	(same)	560 lb (254 kg)	900 W	7.5 A / 3.75 A	TNMC 221
SO-2011	2 Total Top Bottom	H 7'-0", W 20'-0", D 6" (2286 mm, 6096 mm, 152 mm) H 4'-6", W 20'-0", D 6" (1372 mm, 6096 mm, 152 mm) H 3'-0", W 20'-0", D 6" (914 mm, 6096 mm, 152 mm)	450 lb (204 kg)	600 W	5 A / 2.5 A	A1 17 A2 11
w/TNMC	(same)	(same)	570 lb (259 kg)	900 W	7.5 A / 3.75 A	TNMC 221

Model & Options	Number of Sections	Dimensions: Height, Width, Depth	Weight	Watts	Amps 120 / 240 V AC	Driver # & Address
SO-2018 SO-2019	2 Total Top & Bottom	H 8'-0", W 18'-0", D 6" (2438 mm, 5486 mm, 152 mm) H 4'-0", W 18'-0", D 6" (1219 mm, 5486 mm, 152 mm)	565 lb (256 kg)	600 W	5 A / 2.5 A	A1 15 A2 19
w/TNMC	(same)	(same)	645 lb (293 kg)	900 W	7.5 A / 3.75 A	TNMC 221
SO-2021 SO-2022 SO-2023	2 Total Top & Bottom	H 8'-0", W 25'-0", D 6" (2438 mm, 7620 mm, 152 mm) H 4'-0", W 25'-0", D 6" (1219 mm, 7620 mm, 152 mm)	815 lb (370 kg)	600 W	5 A / 2.5 A	A1 15 A2 19
w/TNMC	(same)	(same)	935 lb (424 kg)	900 W	7.5 A / 3.75 A	TNMC 221
w/TNMC + Electronic Captions	(same)	(same)	1095 lb (496 kg)	1200 W	10 A / 5 A	Electronic Captions 227 T.O.L. 225
w/Backlit Captions (Top & Bottom)	(same)	(same)	875 lb (396 kg)	1500 W	12.5 A (120 V AC only)	A1 15 A2 19

Section 3: Mechanical Installation

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

3.1 Footings & Beams

The installation specification drawings listed in **Appendix A** show the recommended number of beams and spacing between them. The drawings also indicate the size of beams required to support the scoreboard at different heights and at various wind speeds. Use the following table to determine which drawings provide the installation specifications for each model:

Models	Drawing Title	Number
BA-1518, BA-1524, MS-2918	16' Width Scoreboard Installation Specs	A-298975
FB-2018, FB-2019, FB-2020, FB 3010, SO-2018, SO-2019	18' Width Scoreboard Installation Specs	A-302416
SO-2011	20' Width Scoreboard Installation Specs.	A-303616
FB-2021, FB-2022, FB-2023, MS-2009, SO-2021, SO-2022, SO-2023	25' Width Scoreboard Installation Specs	A-316750
BA-3718	28' Width Scoreboard Installation Specs	A-316971
FB-2024; FB-2025, FB-2026, FB-2027	32' Width Scoreboard Installation Specs	A-317264
BA-3724, BA-2013	Installation Specifications, BA-3724	A-126445

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

Note: Daktronics does not assume any liability for any installation derived from the information provided in this manual or installations designed and installed by others.

3.2 Lifting the Scoreboard

Larger scoreboard sections and message centers are shipped equipped with eyebolts used to lift them. The eyebolts are located along the top of the cabinet for each scoreboard or scoreboard section. Daktronics scoreboards use $\frac{1}{2}$ " and $\frac{5}{8}$ " shoulder-type eyebolts mounted to a $\frac{1}{8}$ " aluminum plate or steel nut plate.

Daktronics strongly recommends using a spreader bar, or lifting bar, to lift the display. Spreader bars ensure the force on the eyebolts remains straight up, minimizing lifting stress.

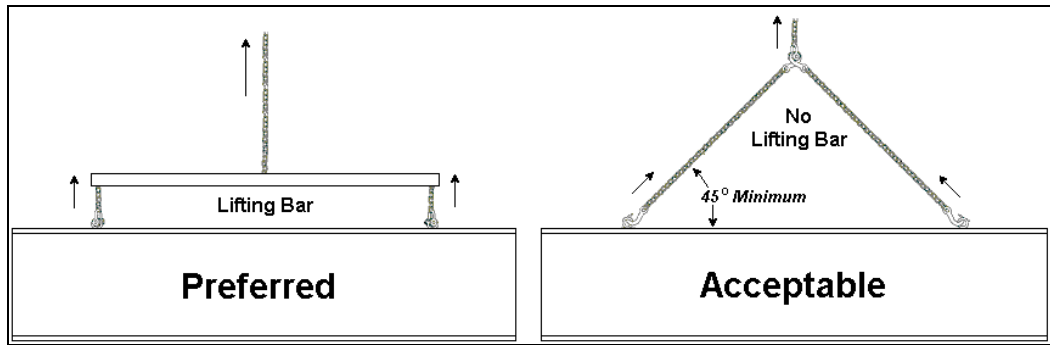


Figure 4: Lifting Methods

Figure 4 illustrates the preferred scoreboard lifting method on the left and an acceptable alternative lifting method on the right. When lifting the display:

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

Cables and chains attached to the eyebolts and directly to a center lifting point, as shown in the right-hand example in **Figure 4**, can create a dangerous lateral force on the eyebolts and may cause the eyebolts to fail. The smaller the angle between the cable and the top of the display, the lighter the sign must be to safely lift it. If this method must be used, ensure a minimum angle between the chain and scoreboard of at least 45 degrees.

Do NOT attempt to lift the display if the angle is less than 45 degrees. Exceeding load angles or weight limits could cause the bolts in the scoreboard cabinet to buckle, resulting in serious damage to the scoreboard or injury to personnel. Also, loads should be applied directly in the plane of the eyebolt as shown in **Figure 5**.

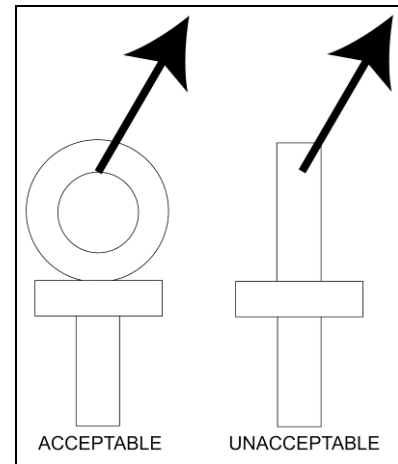


Figure 5: Eyebolt Plane Load

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

In typical multi-section installations, the lower scoreboard is installed first and secured to the support beams. The upper section is then 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. Refer to **Section 4.5** for more information on the power/signal connections between sections.

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

3.3 Scoreboard Mounting

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 lock washers; and 1/2" square nuts, hex nuts, and lock washers. Refer to **Figure 6** or **Drawing A-308051** in **Appendix A**. Each section of the scoreboard attaches at the top and the bottom to every beam.

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

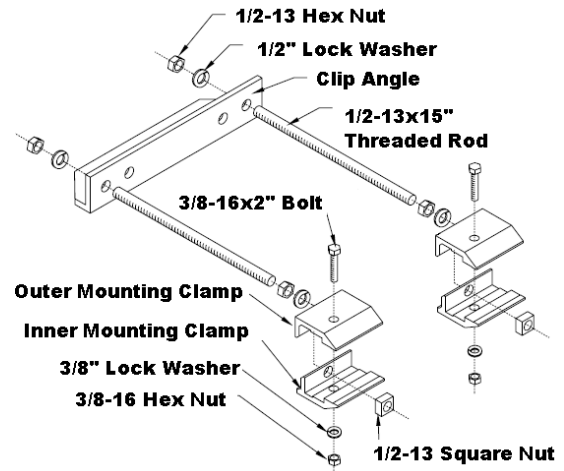


Figure 6: Mounting Hardware

- Using 3/8" bolts, loosely attach the inner and outer mounting clamps to the rear flanges of the scoreboard. Measure the beam spacing and position the clamps to fit on either side of the beams.
- Insert a 1/2" square nut into each mounting clamp. Screw a threaded rod into each of the nuts from the rear.
- 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.
- Slide clip angles over the ends of the rods and loosely install the washers and nuts.
- Make final adjustments in the positioning of the scoreboard. Tighten the 3/8" bolts in the mounting clamps.
- Make sure that the threaded rods are perpendicular to the scoreboard, and tighten all of the 1/2" hex nuts (**Figure 7**).

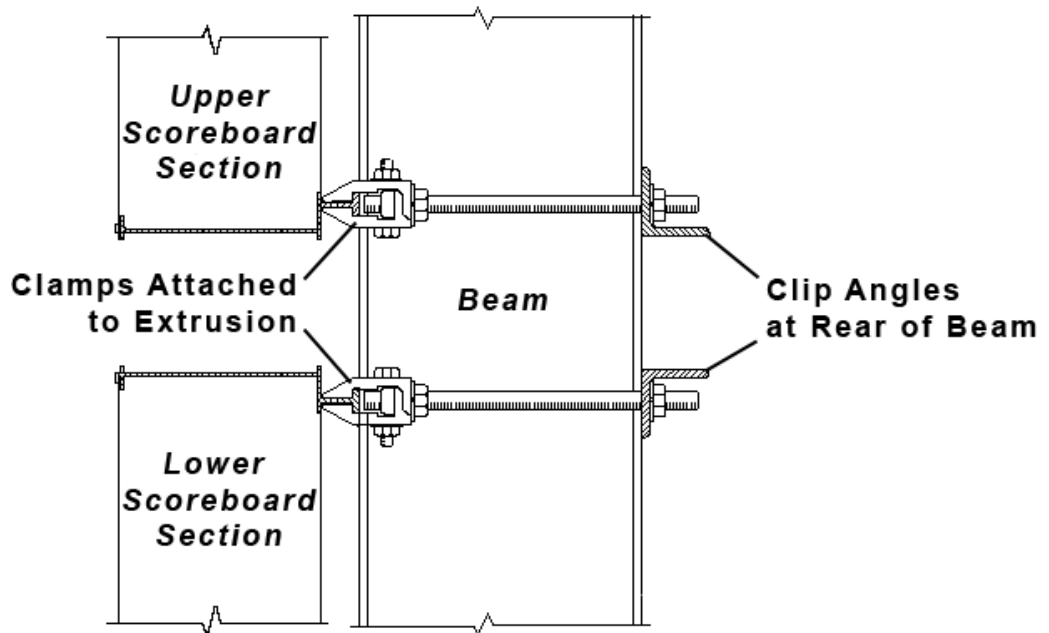


Figure 7: Clamp Mounting Method, Side View

Scoreboard Mounting Using Vertical Spacers

Many 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. This will typically be scoreboards that are 8" deep.

To create a uniform appearance for the overall display, Daktronics recommends using vertical 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 8** and **Drawing A-182909** in **Appendix A**.

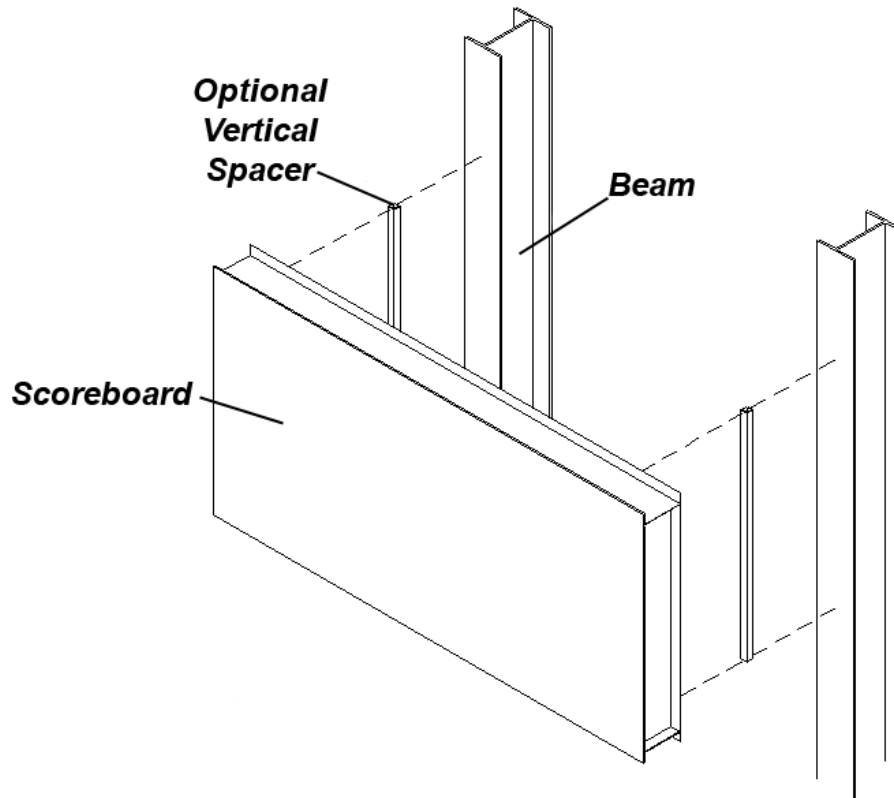


Figure 8: Mounting with Vertical Spacers

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.

3.4 Scoreboard Protective Devices

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

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.

3.5 Ad Panel Mounting

The installation uses C-channels; clip angles; 1/2-13" threaded rods; and 1/2" square nuts, hex nuts, lock washers, and optional spacers. Refer to **Figure 9** and **Drawing A-52187** in **Appendix A**.

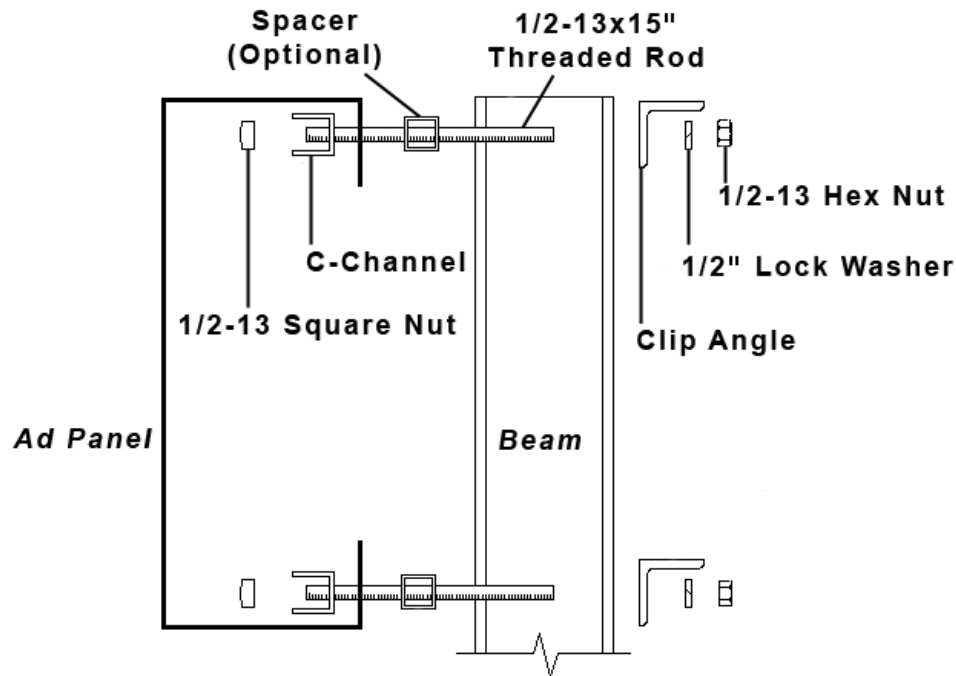


Figure 9: Ad Panel Mounting with C-channel, Side View

Mount the ad panel(s) as follows:

1. Use the width of the beam to determine which hole combination to use for the bolts. Be sure to keep the bolts as close to the beam as possible.
2. Using the clip angle as a template, use a $\frac{9}{16}$ " bit to drill 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 rear flanges as shown in **Figure 9**.
4. Place 1/2" square nuts inside the channel and thread the 1/2-13" rods through the C-channel, rear flange of the ad panel, and spacer (if used).
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 the ends of each pair of bolts and secure with 1/2" lock washers and hex nuts.
7. Make final adjustments in the positioning of the ad panel.
8. Make sure that the threaded rods are perpendicular to the ad panel, and tighten all of the 1/2" hex nuts.

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 both the upper and lower rear flanges.

Section 4: Electrical Installation

CAUTION: Only qualified individuals should terminate power and signal cable and access the electrical components of the display and its associated equipment. It is the responsibility of the electrical contractor to ensure that all electrical work meets or exceeds local and national codes.

Daktronics engineering staff must approve all changes or the warranty will be void.

4.1 Installation Overview

The diagram shown in **Figure 10** illustrates a typical wired setup between a multi-section outdoor scoreboard and controller. Daktronics part numbers are shown in parentheses.

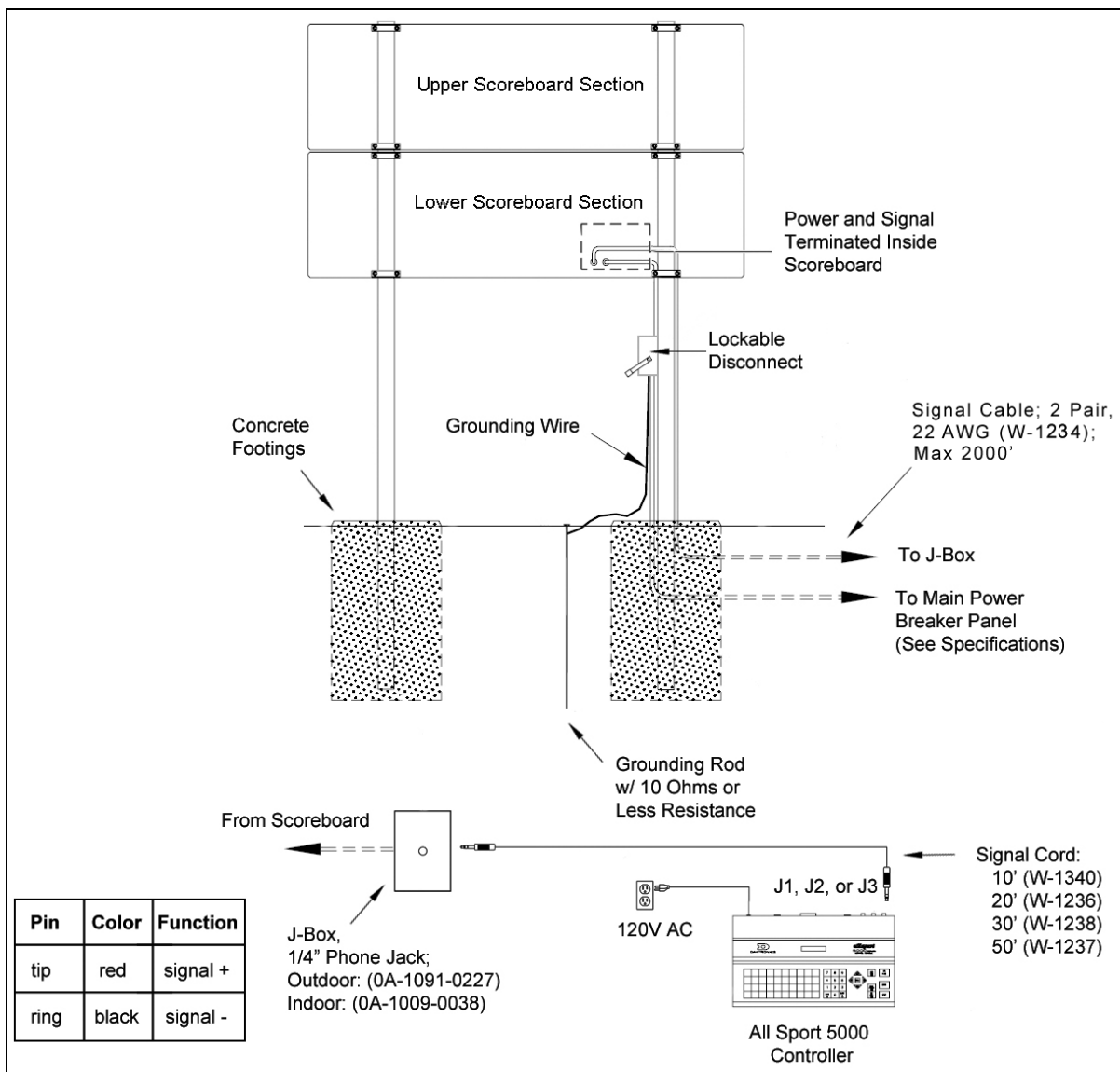


Figure 10: Wired Installation

The diagram shown in **Figure 11** illustrates a typical wireless setup between a multi-section outdoor scoreboard and controller. Daktronics part numbers are shown in parentheses.

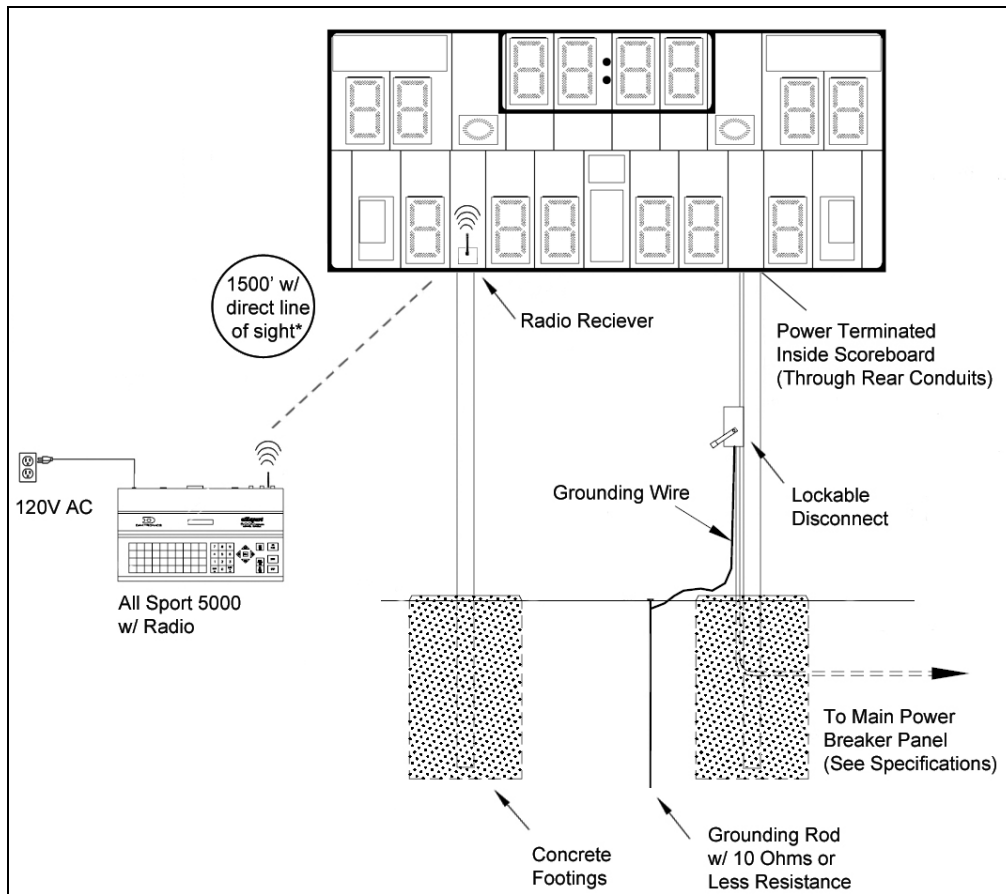


Figure 11: *Wireless Installation*

4.2 Power

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 or injury to personnel.

Multi-section outdoor scoreboards require a dedicated 120 V or 240 V circuit for incoming power (refer to the Specifications in **Section 2**). 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 will void the scoreboard warranty.

Grounding

The display must be properly grounded according to local and national codes or the warranty will be void. Proper grounding is necessary for reliable equipment operation and protects the equipment from damaging destructive disturbances and lightning.

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 earth-ground. The material for an earth-ground electrode differs from region to region and may vary according to conditions present at the site. Consult local and national electrical codes.

Daktronics does not recommend using the support structure as an earth-ground electrode; concrete, primer, corrosion, and other factors make the support structure a poor ground.

Note: The support structure may be used as an earth-ground electrode only if designed to do so. A qualified inspector must approve the support structure and grounding methods.

There are two types of power installation: installation with ground and neutral conductors provided, and installation with only a neutral conductor provided. These two power installations differ slightly, as described in the following 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 as this would violate electrical codes and void the warranty.

Use a disconnect so that all ungrounded lines 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.

Connection

Both power and signal cables are routed into the scoreboard from the rear through two plastic plugs for conduit connection. All power and signal wiring terminates at the master driver enclosure. Note that systems with radio control do not require external signal wiring.

Look for a warning label similar to **Figure 12** to locate the front access panel to the driver enclosure. Remove the screws or loosen the latches to open the access door panel. Remove the metal cover of the driver enclosure to expose the driver components (**Figure 13**).

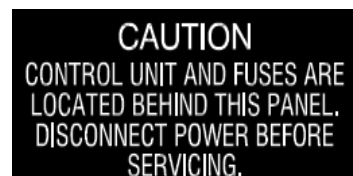


Figure 12: Power Warning Label

Refer to the component location drawings in **Appendix A** for precise power/signal termination location for each model.

Connect the appropriate wires coming through the rear of the scoreboard to the power terminal block, as shown in **Figure 13**.

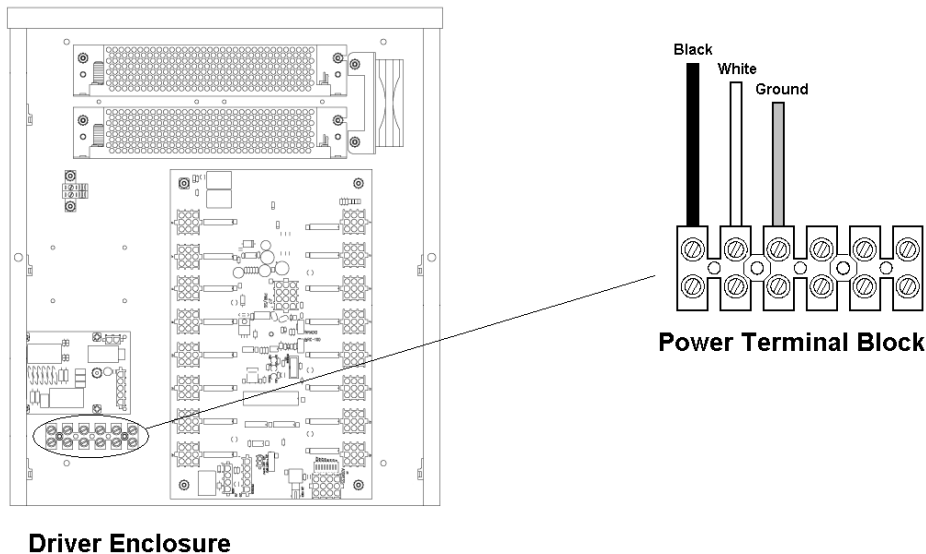


Figure 13: Driver Enclosure & Power Terminal Block

Note: If a power receptacle is needed to operate the control console at the scoreboard for troubleshooting, Daktronics recommends that an installation electrician provides a 120 V outlet close to the disconnect box specifically for this purpose.

4.3 Power-On Self-Test (POST)

The scoreboard performs a self-test each time that power is turned on and the control console is powered off or not attached to the scoreboard. If the control console is attached and powered on, the self-test does not run, and data from the control console is displayed on the scoreboard after a brief period of time. Each scoreboard self-test pattern will vary depending on the scoreboard model, the number of drivers and types of digits. **Figure 14** shows an example of the LED bar test pattern that each digit performs.

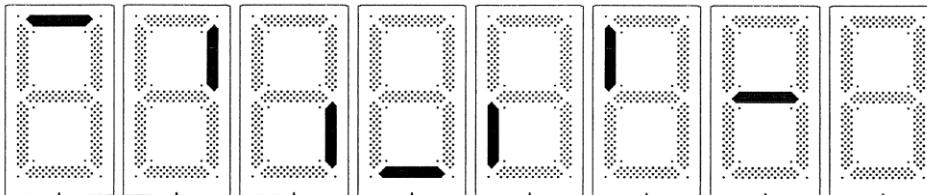


Figure 14: Digit Segment POST

Radio Settings

If a radio receiver is installed, the radio Broadcast and Channel settings will be displayed in the Home and Guest or clock digits during the POST. These values must match the settings in the control console (refer to the manual listed in **Section 1.4**). Refer to **Section 5.9** for more information on radio installations.

4.4 Signal Connection

For wired setups, route signal cable through the conduit knockout on the rear of the scoreboard to the signal surge arrestor card (**Figure 15**), located just above the power termination block in the driver enclosure.

At the SIGNAL IN terminal block, connect the red signal wire to the positive terminal and the black wire to the negative terminal.

Note: Be sure to properly connect the shield (silver) wire to the SHIELD terminal.

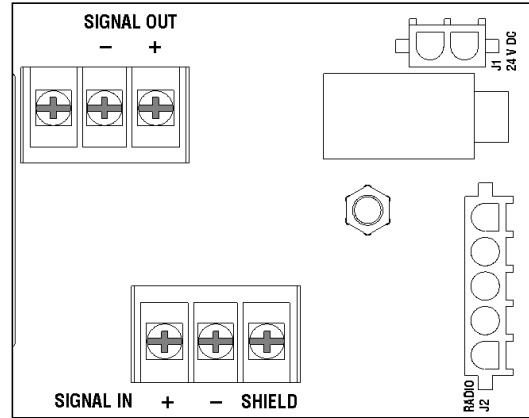


Figure 15: Signal Surge Arrestor Card

For signal cable, Daktronics recommends, as a minimum, single-pair, shielded cable, 22 AWG (part number W-1077). Two-pair shielded cable (part number W-1234) is preferred.

Fiber Optic

Another common signal communication method is fiber optic cabling. A minimum cabling of multi-mode, 62.5/125 μm , and 2-core fiber cable is recommended (part number W-1242). See **Figure 16** for the location of the fiber connector on a 16-column driver. This method requires a signal converter between the All Sport console's scoreboard output and the fiber optic cable (not provided by Daktronics).

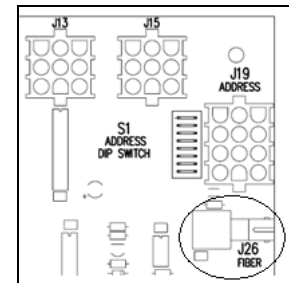


Figure 16: Driver Fiber Connection Location

Multiple Driver Connections

Some models in the multi-section outdoor scoreboard line require multiple drivers in each scoreboard section, and use a master/slave driver system. Master and slave drivers function identically, but slave units lack the power termination block and signal surge suppression card. When one section has multiple drivers, they simply plug into one another, and this is done at the factory. Drivers between sections, however, require additional on-site connection as described in **Section 4.5**.

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

4.5 Power/Signal Connections Between Sections

Most multi-section outdoor scoreboards use a single power/signal interconnect cable between a driver in the upper section and a driver in the lower section (**Figure 17**).

It is common for the top driver to be located behind the right-most HOME score digit with the bottom driver located behind the right-most digit of the left-most set of digits. Refer to the component location drawings in **Appendix A** for exact driver locations.

1. On the upper section, open the appropriate access panel to locate the bundle of interconnect cable coming from the driver.

Note: Additional panels may be opened for easier access when routing the cable.
2. Route the interconnect cable through the hole in the bottom of the upper cabinet through the hole in the top of the lower cabinet, and plug it into the driver.
 - If the lower section contains the *master* driver, the harness will connect to J42.
 - If the lower section contains the *slave* driver, the harness will connect to P43.

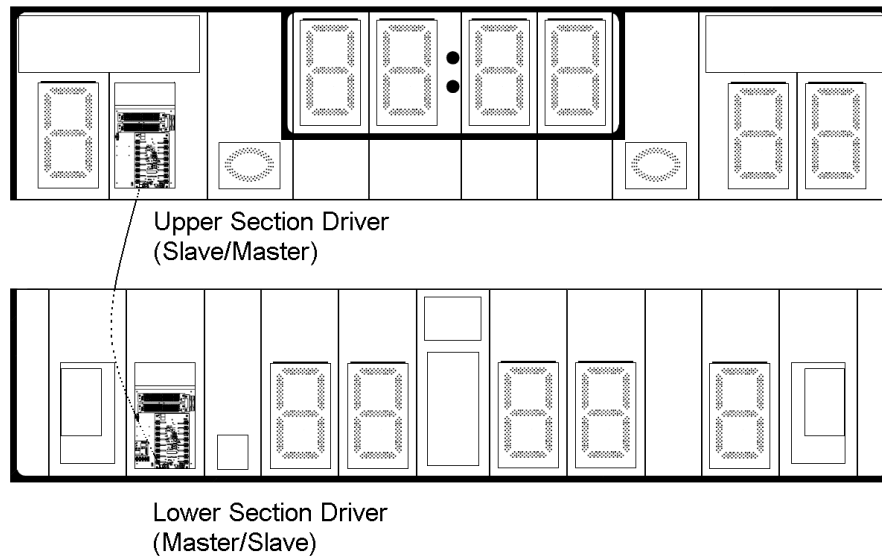


Figure 17: Typical Upper/Lower Scoreboard Section Connection (Digits Removed to Show Drivers)

3. With four-section scoreboards, be sure to also connect any plugs extending from the right side of the left cabinets to the corresponding jacks on the left side of the right cabinets.

Note: Similar connections exist between the upper and lower cabinets of multi-section, *single-driver* scoreboards as well.

4.6 Lightning Protection

The use of a disconnect near the scoreboard to completely cut all current-carrying lines significantly protects the circuits against lightning damage. 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 circuitry.

Section 5: Scoreboard Troubleshooting

IMPORTANT NOTES:

1. Always disconnect power before doing any repair work on the scoreboard.
2. Permit only qualified service personnel to access internal display electronics.
3. Disconnect power when not using the scoreboard.

Note: For assistance in the maintenance of team name message centers (TNMCs), electronic captions, or other optional scoreboard message centers, refer to **Section 6** or the service manual that accompanies those units.

5.1 Troubleshooting Table

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

Many of the solutions offered below provide references to other sections within this manual or to supplemental product manuals with further detail on how to fix the problem.

If a problem occurs that is not listed or that cannot be resolved using the solutions in the following table, contact Daktronics using the information provided in **Section 7**.

Problem	Possible Cause	Solution/Items to Check
Scoreboard doesn't light and console doesn't work	No power to the scoreboard	Check that the main circuit breaker for the scoreboard is on.
		Check that the scoreboard is receiving the correct 120 (or 240) V AC power (see Section 2).
	No power to console	Ensure the console is plugged into a 120 (or 240) V AC power supply.
		Swap the console with one known to work correctly, and enter the proper sport code and/or radio settings to test. Replace console if necessary.
Scoreboard digits don't light, but console works	No wired signal from console	Check that the scoreboard is receiving the correct 120 (or 240) V AC power (see Section 2).
		Check that the red DS2 LED on the driver lights up when sending commands from the control console (see Section 5.7).
	No radio signal from console	Cycle power to the scoreboard and watch for radio receiver broadcast/channel settings (see Section 5.9).

Problem	Possible Cause	Solution/Items to Check
		Check that the green POWER and amber RADIO IN RANGE indicators on the radio receiver in the scoreboard light up when the control console is powered on (see Section 5.9). Keep the console between 20 to 1500 feet from the scoreboard.
		Move the console 20-30 feet from the scoreboard and test again. Verify that both the console and scoreboard antennae are securely tightened and in a vertical position.
		Replace the radio receiver.
	No signal to driver	Check that the scoreboard is receiving the correct 120 (or 240) V AC power (see Section 2).
		Check that the red DS2 LED on the driver lights up when sending commands from the control console (see Section 5.7).
		Swap the driver with one known to work correctly and with the same part number to verify the problem. Replace if necessary (see Section 5.7).
No power to driver	Check that the green DS1 LED on the driver is always lit up when the scoreboard is powered on (see Section 5.7).	
Scoreboard digits light, but not in the correct order	Incorrect sport code	Ensure the correct sport code is being used for the scoreboard model. Refer to the operation manual for the console being used (see Section 1.4).
	Incorrect driver address	Check that the scoreboard driver(s) are set to the correct address(es) (see Section 5.7).
Scoreboard digits light, console works, but no display on scoreboard	No wired signal from console	(See solution on previous page)
	No radio signal from console	(See solution on previous page)
	Bad/damaged field wiring	Check that the red DS2 LED on the driver lights up when sending commands from the control console (see Section 5.7).
Scoreboard works, but some LEDs always stay on	Short in digit, segment, or indicator circuit	Swap the digit/segment/indicator with one known to work correctly to verify the problem. Replace if necessary (see Sections 5.4-5.6).

Problem	Possible Cause	Solution/Items to Check
Scoreboard works, but some LEDs do not light or they blink	Bad connection	Verify the connector on the back of the digit circuit board is secure (see Section 5.3).
	Bad digit or driver	Swap the digit/driver with one known to work correctly to verify the problem. Replace if necessary (see Sections 5.4-5.6 for digits or Section 5.7 for drivers).
Scoreboard works, but some digits do not light	Bad digit or driver	(see solution above)
	Incorrect sport code	(see solution on previous page)
	Incorrect driver address	(see solution on previous page)
	Wrong console controlling scoreboard	Another console's radio signal could be transmitting to the scoreboard. An example would be football and baseball scoreboards that are within 1500 feet of each other (see Section 5.9).
	Radio interference	There may be other radio transmissions in the area that overpower the console. If it is not possible to disable the interfering device, it may be necessary to run a wired signal connection instead.
	Bad breakout board on segmented digit (white digits only)	Replace the breakout board with one known to work correctly to verify the problem. Replace if necessary (see Section 5.5).
Scoreboard works, but a certain section of digits do not light	Blown fuse(s) on power supply circuit board (white digits only)	Replace the fuse(s) on the circuit board (see Section 5.8).
	Bad multi-section connection	Verify power/signal interconnect(s) between scoreboard sections properly connected (see Section 4.5)
	Bad power supply	Swap the power supply with one known to work correctly to verify the problem. Replace if necessary (see Section 5.8).
	Bad power supply circuit board (white digits only)	Swap the circuit board with one known to work correctly to verify the problem. Replace if necessary (see Section 5.8).

5.2 Component Locations

Component location varies with each scoreboard model. Refer to the component location drawings in **Appendix A**. Drivers and power and signal components are typically mounted inside the scoreboard behind a digit or access panel. There are several ways to locate the access panels:

Power Warning Label

Look for a power warning label toward the bottom of the access panel (**Figure 12**). This is the location of the master driver. Refer to the component locations drawings to determine the number of drivers for a particular scoreboard model.

Panel Hinges

Access panels typically have raised hinges to allow them to easily swing open.

Conduit Knockouts

Most scoreboards have knockouts for the electrical and signal conduits on the rear that will match up with an access panel on the front. Conduits will only run to the master driver.

5.3 Component Access

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

Digit panels are held in place on the scoreboard face by an offset flange across the top and by screws at the bottom, as shown in **Figure 18**.

To open a digit panel:

1. Hold the digit panel in place by putting hand pressure on it and remove the holding screws.
2. Carefully lift the panel away from the scoreboard, sliding it out and down.

Note: If the panel is not held in place when the screws are removed, it could drop and possibly damage LEDs or the digit harness.

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: When closing the access panel, make sure all latches/screws are holding the door firmly in place to prevent moisture and debris from entering the scoreboard.

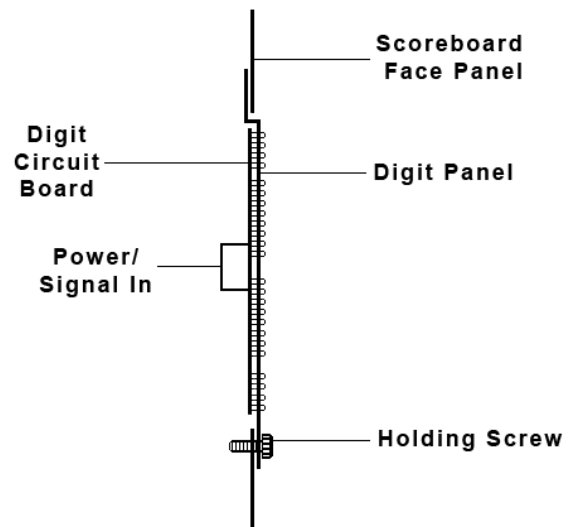


Figure 18: LED Digit Panel

5.4 Replacing Digits

LEDs are embedded in a circuit board that is mounted to the back of the digit panel, as shown in **Figure 19**. Do not attempt to remove individual LEDs. In the case of a malfunctioning LED or digit segment, replace the entire digit circuit board.

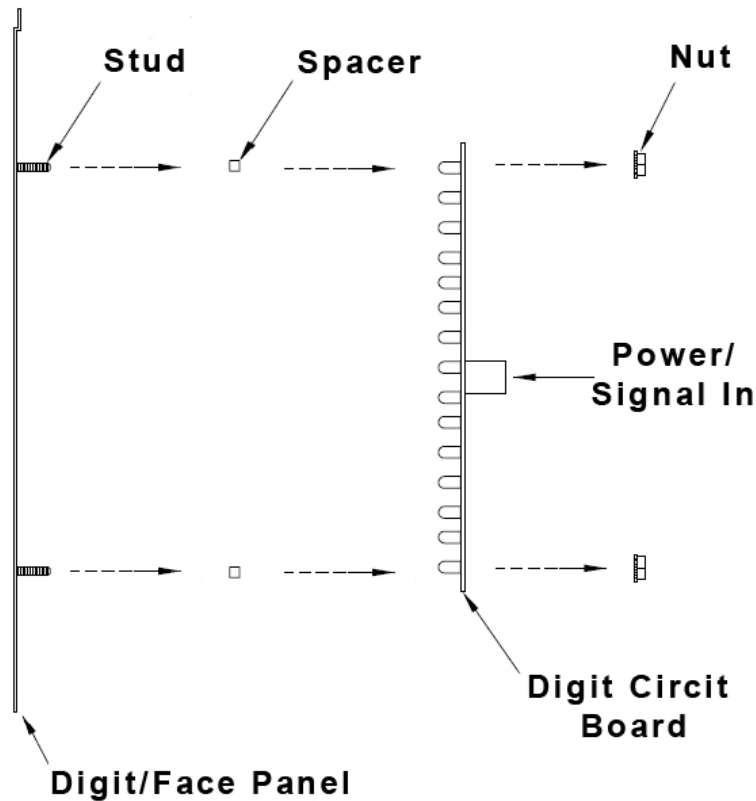


Figure 19: Digit Assembly

To replace a digit circuit board:

1. Open the digit panel as described in **Section 5.3**.
2. Disconnect the power/signal plug from the back of the digit by squeezing together the locking tabs and pulling the connector free.
3. Use a $\frac{9}{32}$ " nut driver to remove the nuts securing the digits to the inside of the panel, and then lift the digit off the standoff studs.
4. Position a new digit over the studs, making sure the rubber side of the rubber-backed spacer is facing the digit circuit board.
5. Tighten the nuts.
6. Reconnect the power/signal connector.

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

7. Close and secure the digit panel, then power up and test the scoreboard to see if changing the digit has resolved the problem.

5.5 Replacing Digit Segments

Larger digits (24"/30") are constructed with individual circuit board segments. As with smaller digits, the digit segment circuit boards are mounted to the back of the digit panel (**Figure 20**). It may be possible to make repairs by removing just the defective segment. Do not attempt to remove individual LEDs.

To replace a digit segment:

1. Open the digit panel as described in **Section 5.3**.
2. Disconnect the 2- or 4-pin power/signal connectors from the back of the digit segment by squeezing together the locking tabs and pulling the connector free.
3. The digit segments are secured to the inside of the panel with fixed machine screws, spacers, and push nuts. The push nuts can be removed in several ways, but a $\frac{9}{32}$ " nut driver is recommended. Remove the nuts and lift the segment off the standoff studs.
4. Position a new segment over the screws and tighten the nuts.
5. Reconnect the power/signal connector.

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

6. Close and secure the digit panel, then power up and test the scoreboard to see if changing the digit segment has resolved the problem.

Some white LED digit segments will be connected to a breakout board (**Figure 21**). If all the segments of an entire digit do not work, it may be necessary to replace the breakout board instead. Breakout boards are replaced in the same manner as a digit segment.

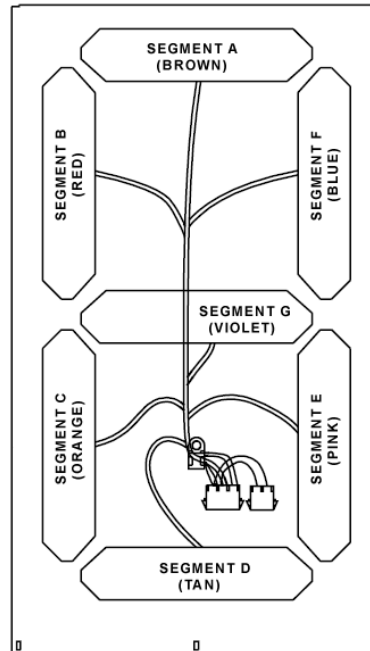


Figure 20: Digit Segments & Panel

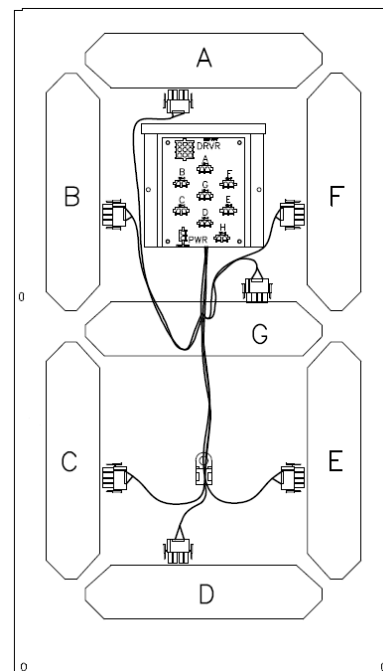


Figure 21: Digit Segments w/ Breakout Board

5.6 Replacing Colons, Decimals & Indicators

Colons, decimals, and other indicators are replaced in the same manner as a digit segment.

5.7 LED Drivers

The LED drivers perform the task of switching digits on and off within the scoreboard. LED drivers are located inside of a driver enclosure. Refer to **Figure 22** to view the location and components of a driver enclosure.

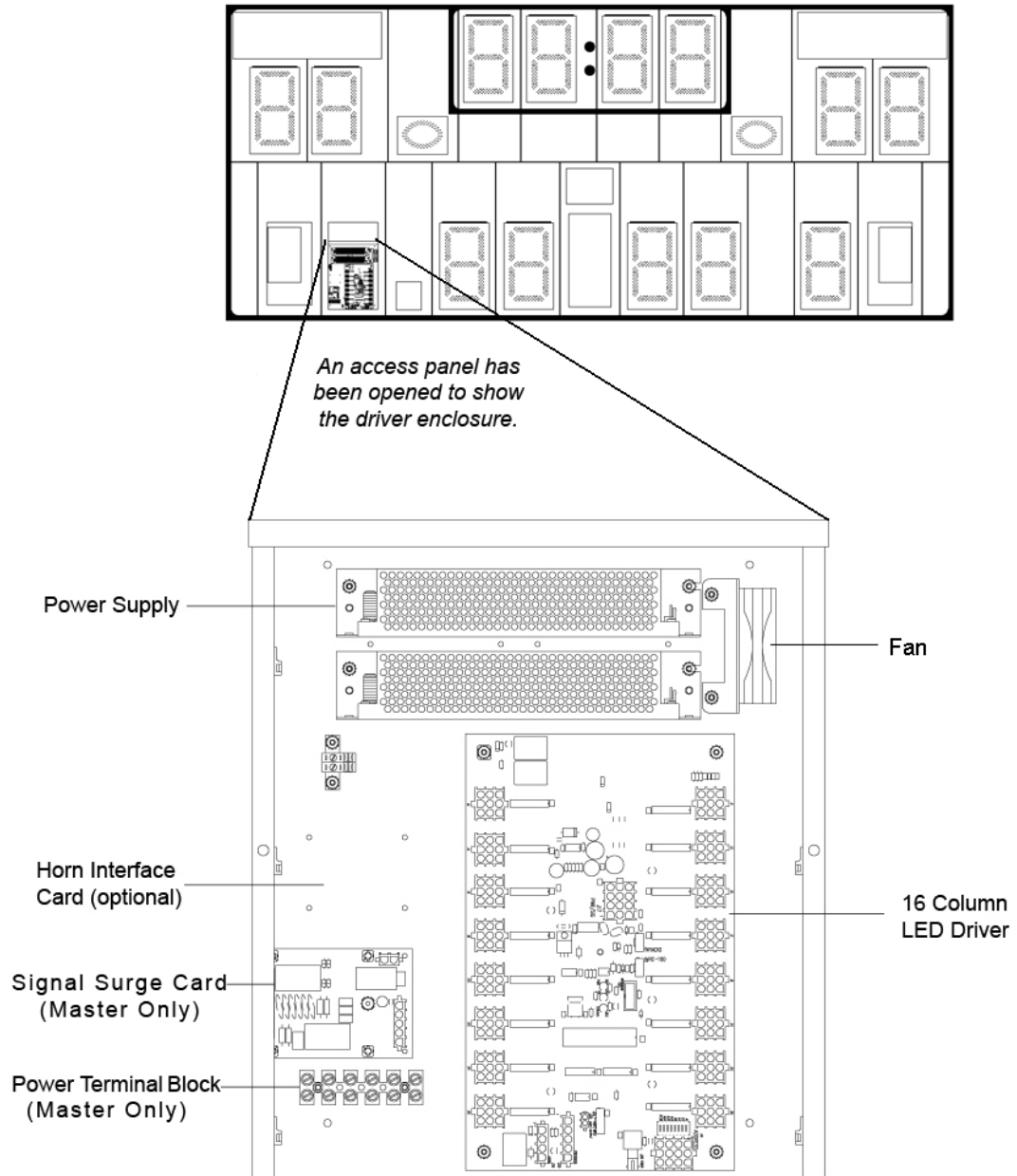


Figure 22: Driver Enclosure Location & Components

Almost every scoreboard in this manual has more than one driver to accommodate all of the digits and indicators. Refer to the component location drawings in **Appendix A** to determine the number and location of all drivers in a particular scoreboard model. Also refer to **Section 5.12** to locate the appropriate schematic drawings for the number of drivers in the model.

When troubleshooting driver problems, three LEDs labeled **DS1**, **DS2**, and **DS3** in **Figure 23**, provide the following diagnostic information:

LED	Color	Function	Operation	Summary
DS1	Green	Power	Steady on	DS1 will be on and steady to indicate the driver has power.
DS2	Red	Signal RX	Steady on or blinking	DS2 will be on or blinking when the driver is receiving a signal and off when there is no signal.
DS3	Amber	Status	Blinking	DS3 will be blinking at one second intervals to indicate the driver is running.

Note: While it is necessary to have the scoreboard powered on to check the LED indicators, always disconnect scoreboard power before servicing.

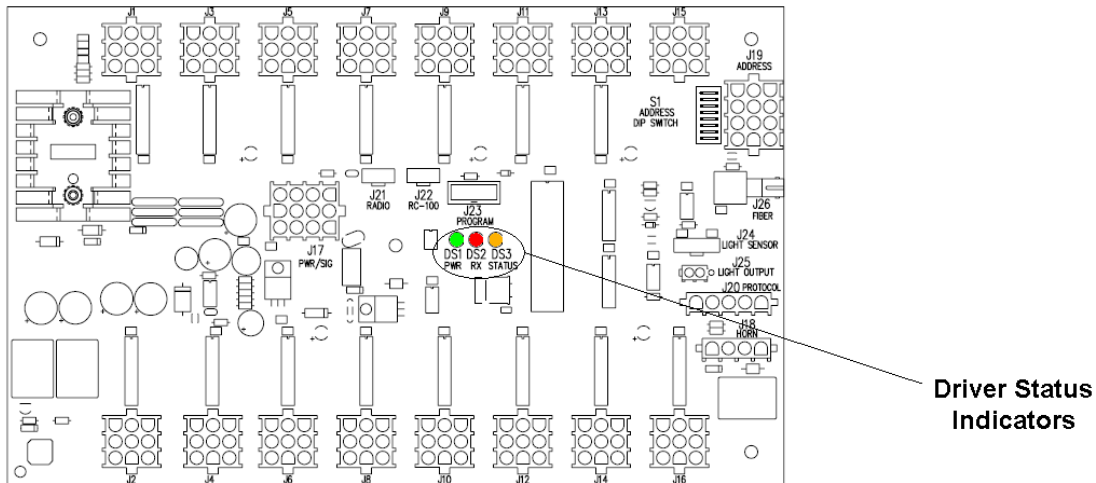


Figure 23: Driver Status Indicators

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 **Section 5.2** to locate the driver enclosure.

To replace a driver:

1. Open the digit panel as described in **Section 5.3**.
2. Loosen the wing nuts to remove metal cover from the driver enclosure.
3. Disconnect all connectors from the driver by squeezing together the locking tabs and pulling the connectors free.

Note: It may be helpful to label the cables to know which cable goes to which connector when reattaching the driver.

4. Remove the screws or 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. Position a new driver over the screws and tighten the nuts.
7. Reconnect all power/signal connectors.

Note: The connectors are keyed and will attach in one way only. Do not attempt to force the connections.

8. Ensure the driver is set to the correct address (refer to **Setting the Driver Address**).
9. Close and secure the digit panel, then power up and test the scoreboard to see if changing the driver has resolved the problem.

Setting the Driver Address

Since the same LED drivers can be used for many scoreboard models, each driver must be set to receive the correct signal input, or address, for the model being used. Addresses are set through the S1 dip switch on the driver (**Figure 24**) using a pen or small, pointed object.

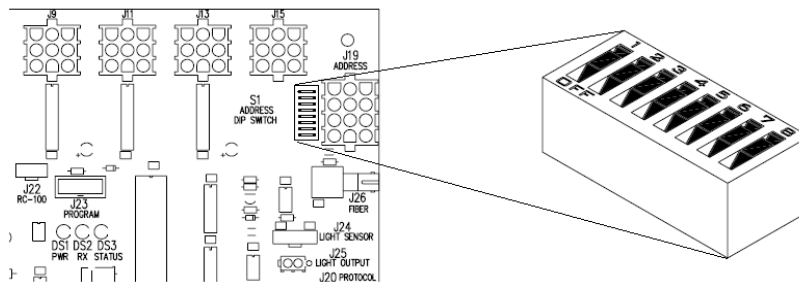


Figure 24: Driver Address Dip Switch

Refer to the specifications table in **Section 2** to determine the correct address setting of the driver(s) in a particular scoreboard model and see **Drawing A-290261** in **Appendix A** for addressing information for driver addresses 1 – 128.

Another method of setting the driver address using the J19 address plug is available. This address is set with jumper wires in a 12-pin plug which mates with a jack on the driver. Refer to **Drawing A-115078** for a listing of the wire/pin connections for driver addresses 1 – 128. When using an address plug, it will not be possible to set the address with the S1 dip switch.

Multiple Drivers

Scoreboards with multiple drivers operate using a master/slave driver configuration. If it appears as though only a certain group of digits on the scoreboard is not functioning, there may be a problem with the slave driver(s) or the power/signal connection from the other driver(s). Refer to **Section 4.5** for more information about these connections.

5.8 Power Supplies

Scoreboards with 16-column driver enclosures require a dual 150 W power supply assembly. All scoreboards with white digits (except FB-3010, MS-2918, & SO-2011) will also have at least one 1000 W power supply in addition to, or in place of, the power supplies in the driver enclosure. The 1000 W power supplies are located in a separate enclosure. If a certain group of digits is not lighting up, the power supply they are all connected to may need to be replaced.

Replacing a Power Supply

To remove a 150 W power supply:

1. Use the component location drawings listed in **Appendix A** to locate the enclosure.
2. Open an access panel as described in **Section 5.3**.
3. Loosen the wing nuts to remove metal cover from the enclosure.
4. Locate the power supply (**Figure 22**) and disconnect all wires connected to it.
5. Use a 9/32" nut driver to remove the hardware securing the power supply.
6. Fasten the new power supply in place and reconnect all wires.

To remove a 1000 W power supply:

1. Open an access panel as described in **Section 5.3**.
2. Loosen the wing nuts to remove metal cover from the enclosure.
3. Remove the mounting plate secured to the enclosure, remove the circuit board attached to the power supply, and detach the power supply from the mounting plate.
4. Attach the circuit board to the new power supply and secure both to the mounting plate.

Note: If replacing the 1000 W power supply (Daktronics part # A-1856R) does not seem to resolve the problem, try replacing its circuit board (part # 0P-1337-2000). This circuit board also contains individual fuses for each output jack. If a single digit doesn't work, a fuse may be blown. Replace the fuse(s) as needed with part # F-1058.

5.9 Radio Connections

To determine the settings for radio connections between the scoreboard and control console:

1. Power off any radio-equipped consoles in the area.
2. Cycle power to the scoreboard, and watch for the radio settings. These settings appear in different locations based on the scoreboard layout:
 - If there is no clock, the settings should appear in the Home and Guest digits, but this may vary by scoreboard model.
 - If there is a clock, the settings appear in the clock digits (**Figure 25**).
 - Scoreboards capable of displaying speed of pitch may also have separate radio settings for the second All Sport console controlling those digits (**Figure 26**).



Figure 25: Radio Settings (Clock)

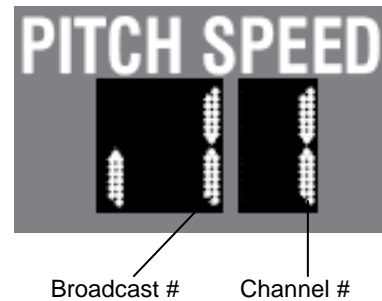


Figure 26: Radio Settings (SOP)

The first values are the broadcast settings ("b1"), and the second are the channel settings ("C1"). These values must match the settings within the console. The speed of pitch controller must be set to a different channel than the main scoreboard controller.

Note: If these settings do not appear, the receiver(s) may need to be repaired/replaced.

To make sure the current radio settings match the receiver in the scoreboard, refer to the appropriate control console manual (see **Section 1.4**).

Radio Interference

If it has been determined that a nearby scoreboard's radio signal is interfering, the broadcast and channel settings of the radio receiver inside the scoreboard(s) must be changed.

For more information, refer to the **Gen V Radio Installation Manual (ED-13831)**, available online at www.daktronics.com/manuals.

1. To locate the radio receiver, look for the antenna sticking out the front of the scoreboard (**Figure 27**). Refer to the component location drawings in **Appendix A** for exact location of the radio for a particular scoreboard.

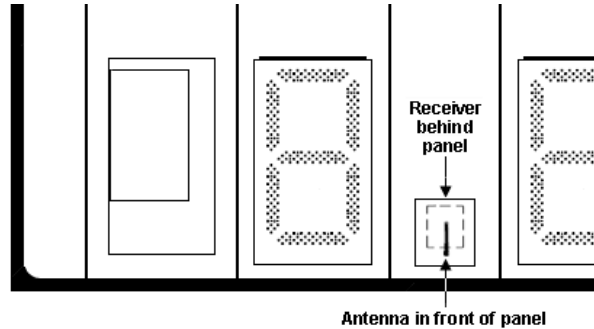


Figure 27: Radio Receiver Location

2. Open the access panel to which the receiver is attached as described in **Section 5.3**.
3. The radio receiver has a plastic cover (**Figure 28**).

Note: While it is necessary to have the scoreboard powered on to check the LED indicators, always disconnect scoreboard power before servicing.

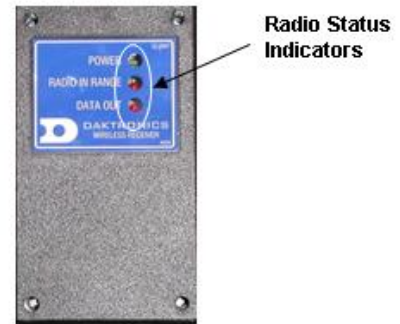


Figure 28: Radio Receiver w/ Cover

4. Remove the four screws using a #2 Philips screwdriver and lift off the cover.
5. Inside the receiver are a channel switch (S1) and two broadcast jacks (J4, J5) with a jumper.

Figure 29 shows the different configurations for the small jumper wire that sets the radio broadcast (BCAST) mode. Move the jumper wire to the desired broadcast location.

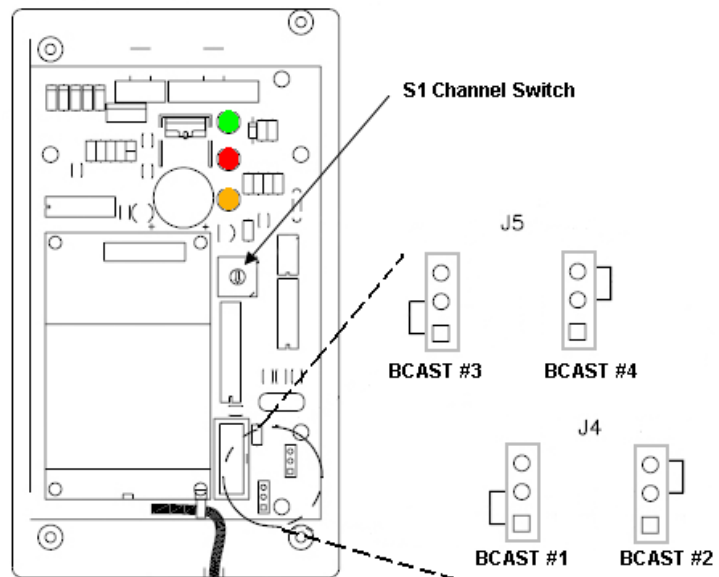


Figure 29: Radio Receiver w/o Cover

6. Use a small flathead screwdriver to set the S1 switch to the desired channel (1-8).
7. Screw the cover back on and securely close the access panel.
8. Enter the correct sport code and new radio settings into the console to test the radio control (refer to **Section 1.4** for controller manuals).

5.10 Trumpet Horns

For scoreboards that include clocks and have trumpet horns installed, refer to the **Trumpet Horn Installation Manual ED-10006**, available online at www.daktronics.com/manuals.

5.11 Segmentation and Digit Designation

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

The component location drawings in **Appendix A** also specify the driver connectors controlling the digits. Numbers shown in hexagons in the upper half of each digit indicate which connector is wired to that digit.

5.12 Schematics

For advanced scoreboard troubleshooting and repair, it may be necessary to consult the schematic drawings. These drawings, located in **Appendix A**, show detailed power and signal wiring diagrams of internal display components such as drivers and transformers as well as optional components like TNMCs/electronic captions, radio receivers, and trumpet horns. Use the following tables to determine the driver schematics for a particular model:

16 Column Driver (x 1)

Model	120 V	240 V	TNMC
BA-1518 BA-1524	A-285779	A-324504	<i>Before Sept. 2009:</i> A-179790 <i>After Sept. 2009:</i> A-752372

16 Column Driver (x 2)

Model	120/240 V & TNMC	White Digits & TNMC
FB-2018 FB-2019 FB-2020	B-298205	B-930720
FB-2021 FB-2022 FB-2023	B-298352	
FB-2024 FB-2025 FB-2026 FB-2027	B-576754	
FB-3010	B-315137	N/A
MS-2918 SO-2011	B-876548	N/A
MS-2009	B-1007768	N/A

16 Column Driver (x 3)

Model	120/240 V	TNMC
BA-3718 BA-3724	A-179541	Before Sept. 2009: A-180081 After Sept. 2009: A-751690

16 Column Driver (x 3) w/ SOP & TOD

Model	120/240 V & TNMC
BA-2013	B-204725

5.13 Replacement Parts

Refer to the following table for common Daktronics scoreboard replacement parts:

Description	Location	Daktronics Part #
J-Box, 1/4" phone, Indoor	Signal	0A-1009-0038
J-Box, 1/4" Phone, outdoor	Signal	0A-1091-0227
Signal surge board	Driver enclosure	0P-1110-0011
Driver, 4 col MASC, outdoor, LED	BA-2013	0P-1192-0068
Digit, 15", 7-seg outdoor LED, red	Scoreboard	0P-1192-0200
Digit, 18", 7-seg outdoor LED, red	Scoreboard	0P-1192-0202
Digit, 18" ones, 7-seg outdoor LED, red	Scoreboard	0P-1192-0203
Digit segment, 24" outdoor LED, red (vertical)	Scoreboard	0P-1192-0204
Digit segment, 24" outdoor LED, red (horizontal)	Scoreboard	0P-1192-0205
Digit segment, 30" outdoor LED, red (vertical)	Scoreboard	0P-1192-0206
Digit segment, 30" outdoor LED, red (horizontal)	Scoreboard	0P-1192-0207
Digit, 15", 7-seg outdoor LED, amber	Scoreboard	0P-1192-0214
Digit, 18", 7-seg outdoor LED, amber	Scoreboard	0P-1192-0216
Digit, 18" ones, 7-seg outdoor LED, amber	Scoreboard	0P-1192-0217
Digit segment, 24" outdoor LED, amber (vertical)	Scoreboard	0P-1192-0218
Digit segment, 24" outdoor LED, amber (horizontal)	Scoreboard	0P-1192-0219
Digit segment, 30" outdoor LED, amber (vertical)	Scoreboard	0P-1192-0220
Digit segment, 30" outdoor LED, amber (horizontal)	Scoreboard	0P-1192-0221
Indicator, 2" circular, outdoor LED, red	Scoreboard	0P-1192-0228
Indicator, 2" circular, outdoor LED, amber	Scoreboard	0P-1192-0229
Indicator, small FB possession, outdoor LED, red	Scoreboard	0P-1192-0230
Indicator, small FB possession, outdoor LED, amber	Scoreboard	0P-1192-0231

Description	Location	Daktronics Part #
Indicator, soccer, outdoor LED, red	Scoreboard	0P-1192-0240
Indicator, soccer, outdoor LED, amber	Scoreboard	0P-1192-0241
Breakout board, 8 segment	24"+ white digits	0P-1192-0326
Driver, 16 col, outdoor, LED	Driver enclosure	0P-1192-0383
Digit, 15", 7-seg outdoor LED, white	Scoreboard	0P-1192-0406
Digit, 18", 7-seg outdoor LED, white	Scoreboard	0P-1192-0407
Digit segment, 24" outdoor LED, white (vertical)	Scoreboard	0P-1192-0408
Digit segment, 24" outdoor LED, white (horizontal)	Scoreboard	0P-1192-0409
Digit segment, 30" outdoor LED, white (vertical)	Scoreboard	0P-1192-0410
Digit segment, 30" outdoor LED, white (horizontal)	Scoreboard	0P-1192-0411
Indicator, 2" circular, outdoor LED, white	Scoreboard	0P-1192-0414
Indicator, soccer, outdoor LED, white	Scoreboard	0P-1192-0418
Digit, 18" ones, 7-seg outdoor LED, white	Scoreboard	0P-1192-0423
Indicator, small FB possession, outdoor LED, white	Scoreboard	0P-1192-0425
DC out circuit board	Power enclosure	0P-1337-2000
Power supply, 24 V, 150W (120 V AC)	Driver enclosure	A-1720
Power Supply; 24 V, 150W (240 V AC)	Driver enclosure	A-1733
Power supply; 24 V, 1000W	Power enclosure	A-1856R
Fan, 32 cfm, 24 V DC, 3.15 sq. in	Driver enclosure	B-1030
15 W Spiral Compact Fluorescent Lamp	Backlit Captions	DS-1563
Fuse; ATM-15, 32V, 15A	Power enclosure	F-1058
Plug, 1/4" phone	Signal	P-1003
Signal cord; 1/4" phone 20'	Signal	W-1236
Signal cord; 1/4" phone 50'	Signal	W-1237
Signal cord; 1/4" phone 30'	Signal	W-1238

See **Section 7** for information on Daktronics Exchange and Repair and Return program.

Section 6: TNMC & Electronic Caption Troubleshooting & Maintenance

IMPORTANT NOTES:

1. Always disconnect scoreboard power before doing any repair/maintenance work on the message centers.
2. Permit only qualified service personnel to access internal display electronics.
3. Disconnect power when not using the scoreboard.

6.1 Display Overview

Team Name Message Centers (TNMCs) are programmable LED displays that allow users to show custom Home and Guest names or messages of ~15 characters on the scoreboard in place of static vinyl captions. TNMCs are typically ordered factory-installed, but they may also be field-mounted after the scoreboard is in place. TNMCs are available with three different pixel dimensions: 8x32, 8x48, and 8x64. Characters are shown on one line using single- or double-stroke fonts up to 10" high (254 mm) and 14" (355 mm) for 34 mm and 46 mm TNMC units, respectively.

Electronic captions, on the other hand, are pre-programmed to only show specific labels to match the captions for a particular sport mode, making it much simpler to switch between sports. Characters are shown on one line using single-stroke fonts.

Both TNMCs and electronic captions are available with amber, red, or white LEDs.

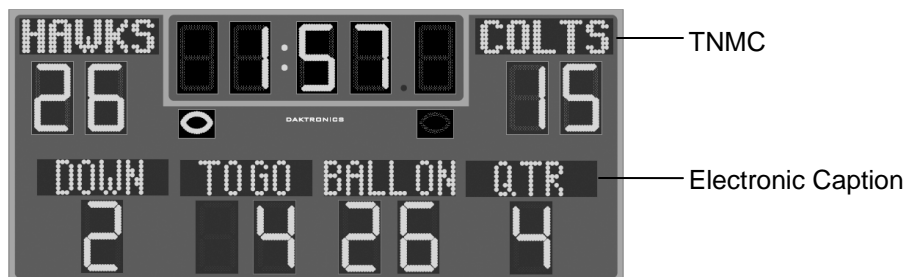


Figure 30: Scoreboard with TNMCs and Electronic Captions

Matrix Size	# of modules	Pixel Spacing	Active Display Area	Weight*
8x32	4	34 mm (1.3")	10.6" x 42.5" (269 mm x 1080 mm)	40 lb (18 kg)
8x48	6	34 mm (1.3")	10.6" x 63.8" (269 mm x 1621 mm)	60 lb (27 kg)
8x64	8	34 mm (1.3")	10.6" x 85.1" (269 mm x 2162 mm)	80 lb (36 kg)
8x32	4	46 mm (1.8")	14.4" x 57.6" (366 mm x 1463 mm)	50 lb (23 kg)
8x48	6	46 mm (1.8")	14.4" x 86.4" (366 mm x 2195 mm)	70 lb (32 kg)

* TNMCs are typically installed in pairs; double this value to find the total added weight.

Electronic captions come in sets of 4 or 6, depending on the scoreboard width.

6.2 Initialization Information at Startup

Every time the display is powered up and there is no All Sport[®] signal present, the display will run through an initialization process, during which it will test all LEDs and addresses. First, the message center will display the proper address number.

If the entire display fails at startup, power may not be properly connected, or the address setting may not be correct on the display driver. Check both in the event of a failure.

6.3 Display Troubleshooting Table

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

Many of the solutions offered below provide references to other sections within this manual with further detail on how to fix the problem.

If a problem occurs that is not listed or that cannot be resolved using the solutions in the following table, contact Daktronics using the information provided in **Section 7**.

Symptom/Condition	Possible Remedy
One or more LEDs on a single module fails to light	Check/replace the ribbon cables on the module.
	Replace the module (see Section 6.7).
One or more LEDs on a single module fails to turn off	Check/replace the ribbon cables on module.
	Replace the module (see Section 6.7).
A section of the display not working; section extends all the way to the right side of the display	Check/replace the ribbon cables running to the first module that is not working.
	Replace the first module/driver on the left side of the first module that is not working (see Section 6.7).
	Replace the second module that is not working (see Section 6.7).
	Replace the power supply assembly on the first module that is not working (see Section 6.8).
One row of modules does not work or is garbled	Replace the first module (see Section 6.7).
	Replace the display driver (see Section 6.6).
A group of modules that share the same power supply assembly fails to work	Replace the power supply assembly (see Section 6.8).
Entire display fails to work	Check for proper line voltage into the power termination panel (see Section 4.2).
	Check/replace the ribbon cable from the display driver to the modules.
	Check the voltage settings on the power supplies.
	Check/replace the signal cable to the driver.
	Repair/replace the driver (see Section 6.6).

6.4 Power & Signal Summary

Reference Drawings:

Schematic, Amber TNMC, GEN IV	Drawing A-252645
Schematic, Red TNMC, GEN IV	Drawing A-252681
Schematic; 832 / 848 / 864 Red TNMC GEN IV, 240V.....	Drawing A-294858
Schematic; 832 / 848 / 864 Amber GEN IV, 240V	Drawing A-294919
Schematic, OD, 3500, 34mm TNMC, Red/Amb	Drawing B-783938
Schematic, OD, 3500, 34mm TNMC, Wht.....	Drawing B-906385
Schematic, OD, 3500, 46mm, Amb/Wht.....	Drawing B-923940
Schematic, OD, 3500, 46mm, Red/Amb.....	Drawing B-923941
Schematic, OD, 3500, 46mm, Wht	Drawing B-1036125

Refer to **Drawings B-783938, B-906385, B-923941, or B-1036125** for detailed schematics about display power and signal routing.

Notes:

- 1) For displays built before September 2009, refer instead to **Drawings A-252645, A-252681, A-294858, or A-294919**.
- 2) For amber 46mm displays built between September 2009 and November 2010, refer to Drawing **B-923940**.

Display signal routing can be summarized as follows:

1. Data from the All Sport[®] controller travels via cable harness into the scoreboard.
2. The signal travels to the driver/power enclosure through the J1 connector on the signal surge arrestor card.
3. Data exits at J42 via current loop harness, and connects with P43 at the driver assembly. A power/signal interconnect (ribbon cable) carries the signal to the first module, and the signal relays from module to module, in daisy-chain style, until it reaches the last module on the message center.
4. Electronic captions use multiple J42-P43 connections between drivers to relay the signal to every display. Refer to the schematic drawings in **Appendix A** for precise connections of a particular scoreboard.

Display power routing can be summarized as follows:

1. Incoming power terminates at the terminal block in the scoreboard driver enclosure. Using the same harness and J42-P43 connections as signal, power is then routed to the display driver where it then travels to the power supply assembly.
1. From the power supply assembly, power is relayed to the first module, and then from module to module.
2. The modules and display driver draw their power directly from the power supply assemblies (3-12.5 VDC). The power supply voltage is set by a resistor loaded on the module (via J4).

Note: In displays built before September 2009, modules draw their power directly from the power supply assemblies (6.5 V for red LED modules, 9 V for amber), while the display driver receives 16 V power from a transformer on the driver tray.

6.5 Component Locations & Access

Reference Drawings:

- Component Locations; 832/848/864 Red/Amb LED, TNMC, G4 **Drawing A-257029**
- Component Loc.; 34mm Red/Amb/Wht LED TNMC G4 **Drawing B-975100**
- Component Loc.; 46mm Red/Amb/Wht LED TNMC G4 **Drawing B-975635**

Figure 31 illustrates the component locations of an 8x48-34mm display with all modules removed. This layout will be similar for 8x32-34mm cabinets as well. The 8x64-34mm cabinets require an additional power supply behind the sixth module. Refer to **Drawing B-975100**.

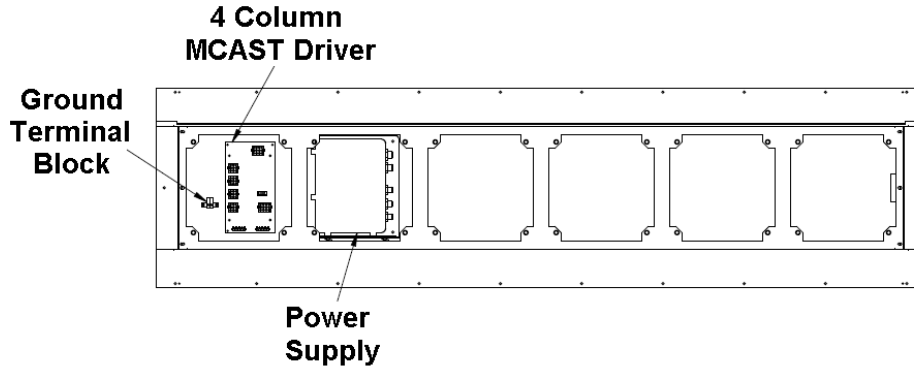


Figure 31: 8x48-34 Display with Modules Removed

Figure 32 illustrates the component locations of an 8x48-46mm display, and this layout will also be similar for 8x32-46mm cabinets. Note that 8x48-46mm displays featuring white LEDs require an additional power supply behind the fourth module. Refer to **Drawing B-975635**.

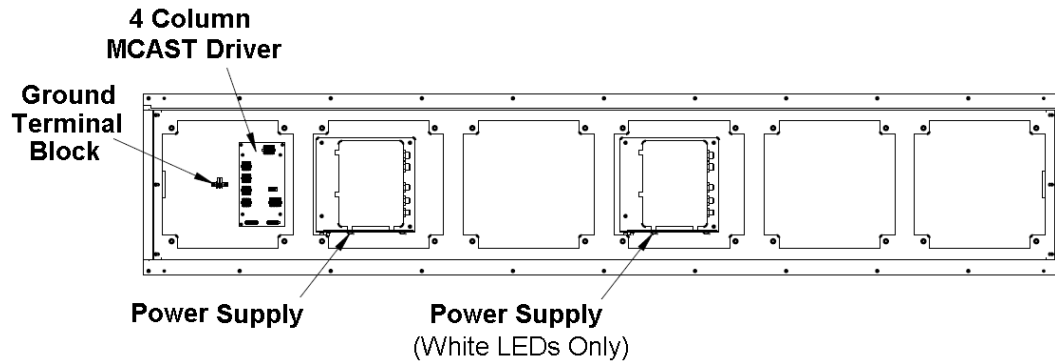


Figure 32: 8x48-46 Display with Modules Removed

For Displays Built Before September 2009

Figure 33 illustrates the component locations of an older 8x48-34mm display, and this layout will also be similar for 8x32-34mm and 8x64-34mm cabinets. Refer to **Drawing A-257029**.

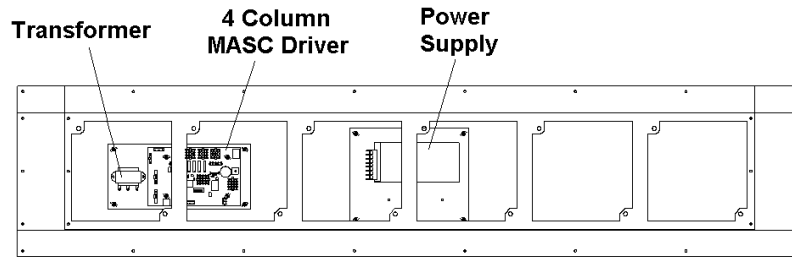


Figure 33: Discontinued 8x48-34mm Display with Modules Removed

Figure 34 illustrates the component locations of an older 8x48-46mm display. The 8x32-46mm cabinets only include a single power supply assembly.

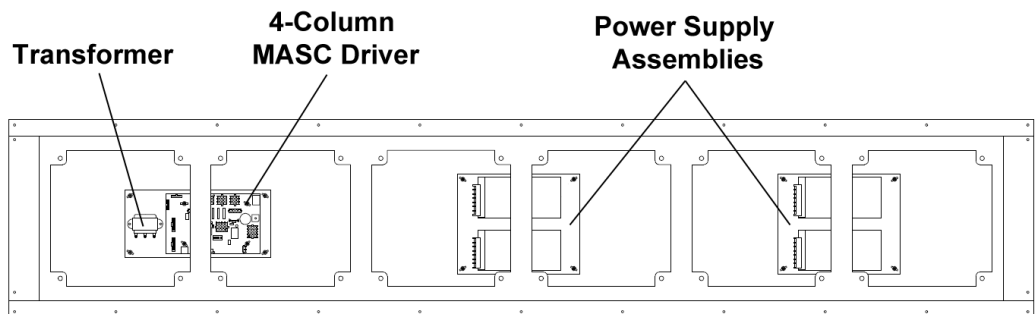


Figure 34: Discontinued 8x48-46mm Display with Modules Removed

Standard Daktronics outdoor LED scoreboards are typically front-accessible, but some models may be ordered with rear service access. For that reason, TNMCs and electronic captions have been designed so that they may be accessed from both the front and rear.

Front Access

1. Loosen the latch fasteners on the front face the LED module using a 1/8" hex wrench (or 7/32" nut driver for displays installed prior to 11/29/05). One latch fastener is centered below the top row of pixels and one is centered above the bottom row (**Figure 35**).
2. Turn each fastener a quarter-turn counter-clockwise (if using a nut driver, turn the top latch clockwise and the bottom latch counterclockwise).

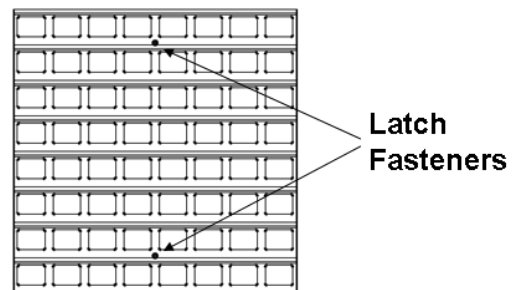


Figure 35: Module, Front View

Note: Do not over turn the fastener!

3. Carefully remove the module from the face of the display.

Rear Access

1. To access the internal components from the rear, remove the appropriate rear-access panel from the display cabinet by loosening all four of the screws.
2. Slide the access panel sideways to the larger part of the keyhole and carefully lift it off the display cabinet.

Note: Be careful when removing and handling the access panels as internal display components may still be attached to them.

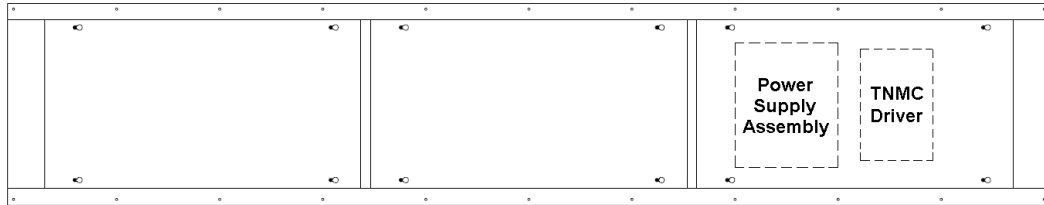


Figure 36: Display Cabinet Rear Access

The display driver and primary power supply will always be located behind the first access panel on the right, when viewing the display from behind. Any additional power supplies are noted in the appropriate component location drawings.

Note: In displays built before September 2009, the driver is located behind the first access panel and the primary power supply is located behind the second access panel.

6.6 Display Drivers

Reference Drawings:

Address Table, 129 Through 255	Drawing A-115079
4 Column MASC LED Driver Specifications	Drawing A-166216
Address Table: Driver- MCAST G2- TNMC Switch	Drawing A-328274
Specifications; Driver, MCAST, 4 Col	Drawing A-793970

The display driver receives signal from the control console via a signal surge arrestor card and sends data to the modules. Refer to **Section 6.4** for more information on signal routing. The driver itself is detailed in **Drawing A-793970** in **Appendix A**. **Figure 37** illustrates some of the primary jacks and switches on the 4 Column MCAST display driver.

The S2 DIP switch is the component for setting the address (switches #1-4). With switches 1-4 off, the address setting for a TNMC is preset at "221". (There may be other address settings if the TNMC is used to display messages other than team names.) For electronic captions, the driver address must be set to "227" (Time Outs Left captions require address "225"). Refer to **Drawing A-328274** in **Appendix A** for more information on setting the driver address.

Note that the S2 DIP switch also controls Home and Guest display. When the #5 switch is ON, the TNMC sends guest team information to the matrix display. In the opposite message center, the switch would be set to OFF, and home information would be displayed.

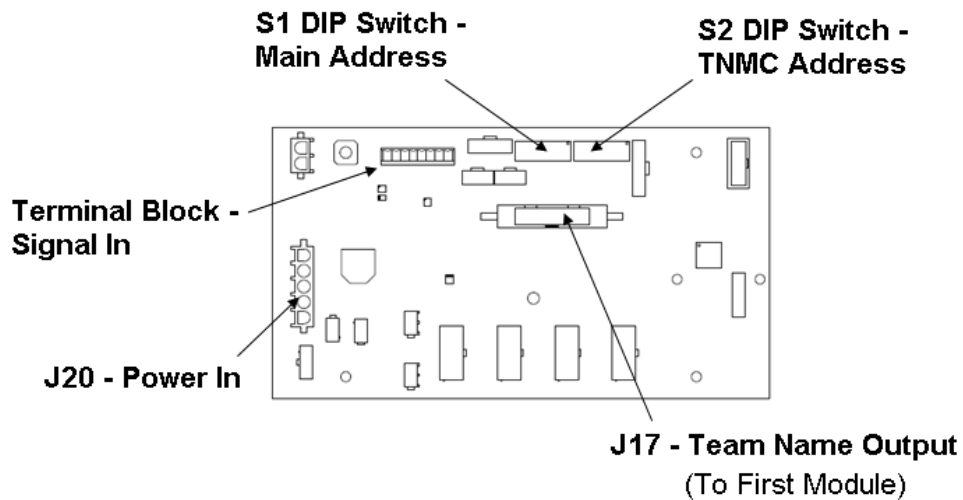


Figure 37: 4 Column MCAST Driver

For Displays Built Before September 2009

The display driver receives signal from the control console via a signal surge arrestor card and sends data to the modules. Refer to **Section 6.4** for more information on signal routing. The driver itself is detailed in **Drawing A-166216** in **Appendix A**. **Figure 38** illustrates a display control assembly with a 4-column MASC driver.

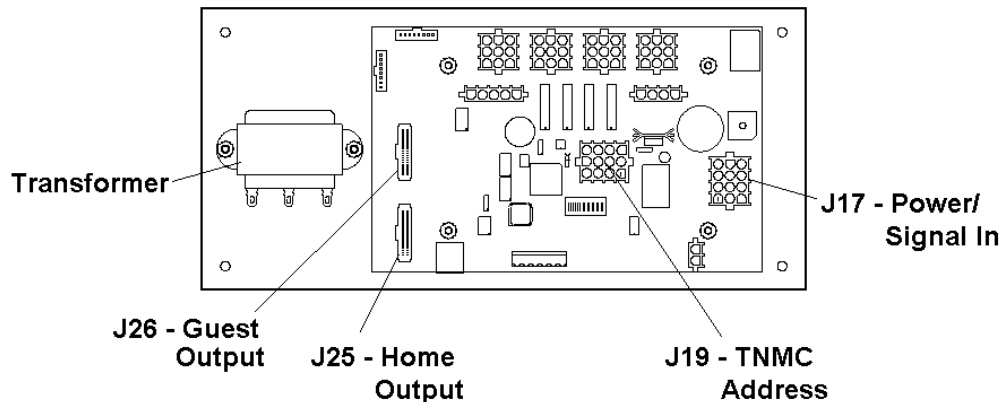


Figure 38: Control Assembly (4 Column MASC Driver)

Connectors J25 and J26 control Home and Guest displays. When the ribbon cable is plugged into J25, the TNMC displays home team information. In the opposite message center, the signal cable should be plugged into the J26 connector to display guest information.

J19 is the connector for the address plug. The address setting for a TNMC will always be 221. (There may be other settings if the TNMC is used to display messages other than team names.) For electronic captions, the driver address must be set to "227" (Time Outs Left captions require address "225"). Refer to **Drawing A-115079** in **Appendix A** for more information on setting the driver address.

Diagnostic LEDs

The following table explains the functions of the primary diagnostic LEDs on the 4 Column MASC/MCAST drivers:

LED Name	Color	Illumination Summary
(CL) RX	Red	Steady on or blinking when the driver is receiving signal and off when there is no signal
(CL) TX	Green	Steady on or blinking when the driver is transmitting and off when there is no signal
Power	Green	Steady on to indicate the driver has power
Status	Amber	Blinking to indicate driver is running

Replacing a Driver

1. Access the internal components using the appropriate **Front/Rear Access** method described in **Section 6.5**.
2. Disconnect all power and signal connectors from the driver by squeezing together the locking tabs and pulling the connectors free.

Note: It may be helpful to label the cables to know which cable goes to which connector when reattaching a driver.

3. Remove the four nuts holding the driver in place.
4. Position a new driver over the screws and tighten the nuts.
5. Reconnect all power/signal connectors.
6. Ensure the driver is set to the correct address.
7. Power up and test the scoreboard/display to see if changing the driver has resolved the problem.

6.7 Modules

Each module assembly is made up of a module housing (containing LEDs and the driver) and a louver assembly. Individual components such as louvers can be removed for service, but Daktronics recommends that the module be kept intact and that the entire assembly be sent in for repair or replacement.

Replacing Modules

To replace a module from the front:

1. Follow the steps in the **Front Access** method described in **Section 6.5**.
2. Carefully disconnect all power and signal cables. It may be helpful to label the cables to know which cable goes to which connector when reattaching.
3. Position a new module on the front of the display frame and reconnect all power and signal cables.
4. Re-latch the fasteners.
5. Power up and test the scoreboard/display to see if changing the module has resolved the problem.

To replace a module from the rear:

1. Follow the steps in the **Rear Access** method described in **Section 6.5**.
2. Use a 1/8" hex wrench or 7/32" nut driver to loosen the latch fastener assembly (**Figure 39**). Turn each fastener a quarter-turn clockwise (if using a nut driver, turn the top latch counter-clockwise and the bottom latch clockwise).

Note: Do not over turn the fastener!

3. While holding onto the module, push it out and turn it in such a manner (generally a sideways, diagonal turn) that it can be pulled back through the frame opening.
4. Carefully disconnect all power and signal cables. It may be helpful to label the cables to know which cable goes to which connector when reattaching.
5. Reconnect all power and signal cables to the new module and push it back through and out the front of the display frame.
6. Re-latch the fasteners.
7. Power up and test the scoreboard/display to see if changing the module has resolved the problem.

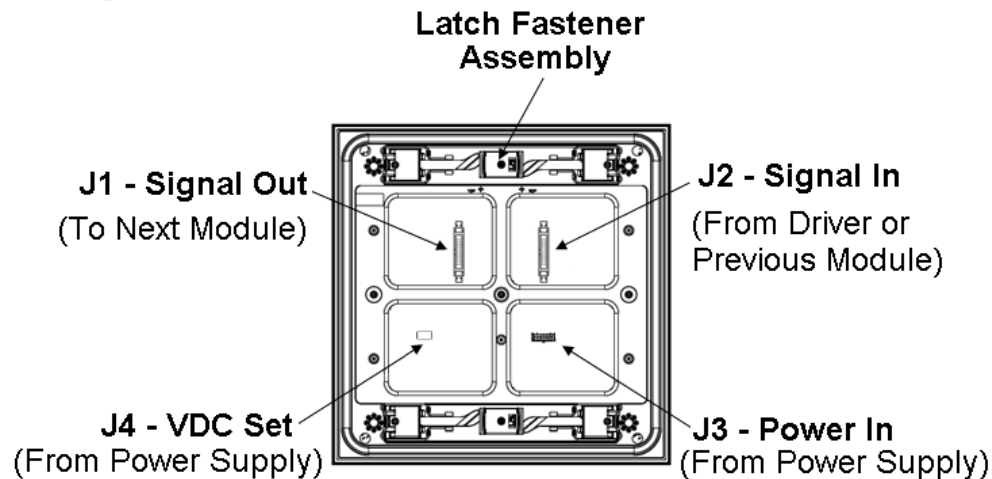


Figure 39: Module, Rear View

Weather-stripping

To ensure that the display is waterproof, weather-stripping has been installed around each module. It is important that the weather-stripping is attached properly at all times, or water may leak into the display and damage the components.

When installing a new module, take note of the following points:

- The weather-stripping on the back edge of the module must be intact and in good condition to prevent water from seeping into the display.
- The module latches must be fully engaged to create a watertight seal around the edge of the module. The module should be firmly seated against the display when the latches are fully engaged.

6.8 Power Supplies

Power supply configurations will vary depending on the number and/or color of modules.

Replacing a Power Supply

To remove a power supply from the display:

1. Access the internal components using the appropriate **Front/Rear Access** method described in **Section 6.5**.
2. Disconnect all the wires connected to the power supply.
3. Loosen the screw securing the power supply and slide it out of the display cabinet.

Note: In displays built before September 2009, use a 9/32" nut driver to remove the hardware securing the power supply.

4. Fasten the new power supply in place and reconnect all wires.

6.9 Display Maintenance

Complete a yearly inspection to maintain safe and dependable display operation.

This inspection should address the following issues:

- **Loose Hardware:** Verify that fasteners, such as bolts and rivets, have not come loose. Check and tighten or replace fasteners as required.
- **Excessive Dust Buildup:** It may be necessary to occasionally vacuum the inside of the display cabinet to remove dust/dirt buildup that may interfere with airflow.
- **Water Intrusion - Water stain marks:** Water can enter the display where weather-stripping has come loose or deteriorated; where fasteners have come loose, allowing gaps in the panels; or where moisture may be entering around hardware. Check electronic components for corrosion.
- **Corrosion:** Check the paint, and look for possible corrosion, especially at footings, structural tie points, and ground rods and other types of grounding electrodes.

Note: If any of the preceding conditions are discovered, make the necessary repairs or take corrective action immediately.

6.10 Replacement Parts List

The following tables contain TNMC components that may have to be replaced. Many of the components within the display itself have attached part number labels.

Part Description	Part Number
Module; 8X8-34, Red	0A-1208-5005
Module; 8X8-34, Red (<i>Sep 2009 – Nov 2010 only</i>)	0A-1208-5002
Module; 8X8-34, Amber	0A-1208-5008
Module; 8X8-34, White	0A-1208-5004
Module; 8X8-46, Red	0A-1541-5008
Module; 8X8-46, Amber	0A-1541-5009
Module; 8X8-46, Amber (<i>Sep 2009 – Nov 2010 only</i>)	0A-1541-5007
Module; 8X8-46, White	0A-1541-5006
Driver; MCAST, 4 Column	0P-1388-0201
Power Supply; 3-6.5V, 90-264V AC (<i>all 34mm LED colors, amber 46mm after Nov 2010 & red 46mm after Sep 2009</i>)	A-2307
Power Supply; 8.5-12.5V, 90-264V AC (<i>white 46mm, amber 46mm between Sep 2009 – Nov 2010</i>)	A-2481
Cable; 20 pos, Ribbon, 36"	W-1495
Cable; 20 pos, Ribbon, 18"	W-1387
Electrical contact lubricant (CaiLube®)	CH-1019

For Displays Built Before September 2009

Part Description	Part Number
Ribbon Cable, 18" (module to module)	0A-1000-0015
Ribbon Cable, 30" (TNMC driver to first module)	0A-1000-0017
4-col MASC Driver	0P-1192-0068
▪ Transformer; 115/230 V pri, 16 V sec @ 2 A	T-1063
Power Supply Assembly; Red TNMC	0A-1192-3160
▪ Power Supply; 6.5V, 15A, 85-264 V AC	A-1591
Power Supply Assembly; Amber TNMC	0A-1192-3161
▪ Power Supply; 9V, 17A, 85-265 V AC	A-1633
Red 8x8 34mm Module Assembly	0A-1208-4004
Amber 8x8 34mm Module Assembly	0A-1208-4005
Red 8x8 46mm Module Assembly	0A-1342-4004
Amber 8x8 46mm Module Assembly	0A-1342-4005

See **Section 7** for information on Daktronics Exchange and Repair and Return program.

Section 7: Daktronics Exchange and Repair & Return Programs

7.1 Exchange Program

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

Before Contacting Daktronics

Identify these important numbers:

Display Serial Number: _____
Display Model Number: _____
Job/Contract Number: _____
Date Installed: _____
Daktronics Customer ID Number: _____

To participate in the Exchange Program, follow these steps:

1. Call Daktronics Customer Service.

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

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

If the replacement part fixes the problem, send in the problem part being replaced.

- a. Package the old part in the same shipping materials in which the replacement part arrived.
- b. Fill out and attach the enclosed UPS shipping document.
- c. Ship the part to Daktronics.

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

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

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

7.2 Repair & Return Program

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

1. **Call or fax Daktronics Customer Service:**
Refer to the appropriate market phone number in the chart on the previous page.
Fax: 605-697-4444
2. **Receive a case number before shipping.**
This expedites repair of the part.
3. **Package and pad the item carefully to prevent damage during shipment.**
Electronic components, such as printed circuit boards, should be placed in an antistatic bag before boxing. Daktronics does not recommend using packing 'peanuts' when shipping.
4. **Enclose:**
 - name
 - address
 - phone number
 - the case number
 - a clear description of symptoms

Shipping Address

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

7.3 Daktronics Warranty and Limitation of Liability

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

Section 8: Scoreboard Options

8.1 Trumpet Horns

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

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

A 120 V trumpet horn cannot be installed on a 240 V model scoreboard. For additional information about this option, contact a Daktronics representative; for complete information on installing trumpet horns, refer to the **Trumpet Horn Installation Manual (ED-10006)**, available online at www.daktronics.com/manuals.

Trumpet Horn Part Numbers:

Part Description	Part Number	Supported Models
120 V AC Trumpet Horn, Top Mounting	0A-1192-1112	FB-2018, FB-2019, FB-2020, FB-2021, FB-2022, FB-2023, FB-2024, FB-2025, FB-2026, FB-2027, MS-2009, SO-2018, SO-2019, SO-2021, SO-2022, & SO-2023
120 V AC Trumpet Horn, Bottom Mounting	0A-1091-0469	MS-2918 & SO-2011
12 V DC Trumpet Horn	0A-1091-1213	All of the above
12 V DC Trumpet Horn (240 V Scoreboards Only)	0A-1192-3455	All of the above

8.2 Radio Control

Radio control is an option for all Daktronics outdoor LED scoreboards. The system provides scoreboard control via a 2.4 GHz, extra-high frequency FM signal.

The radio transmitter and receiver are not standard. This setup requires a control console equipped with radio output as well as a radio receiver plugged into the power terminal block in the driver/power enclosure and mounted internally to the front panel of the scoreboard.

For additional information about this option, contact a Daktronics representative; for complete information on setting up radio communication control, refer to the **Gen V Radio Installation Manual (ED-13831)**, available online at www.daktronics.com/manuals.

8.3 Time Outs Left (T.O.L) Digits

Certain scoreboards have the option to add a time outs left (TOL) digit for both the home and guest teams. These digits are installed by simply unscrewing the blank face panel, connecting and securing the digit panel, and manually applying the “T.O.L.” vinyl caption.

The following scoreboard models in this manual have optional T.O.L. digits:

15" - FB-2018, FB-2019, FB-2020

18" - FB-2021, FB-2022

8.4 Changeable Caption Kits

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

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

Other caption kits are available to show different information for different sports.

To install a changeable panel:

1. Insert the screws on the caption changing pole (part number 0F-1091-0099) into the keyholes on the panel.
2. Lift the panel all the way up into the upper retainer and then insert the bottom of the panel into the lower retainer (**Figure 40**).
3. Take the screws on the caption changing pole out of the keyholes.

Reverse this procedure to remove the caption panel.

The caption changer pole is extendable. Loosen the ring tightener and extend the pole to the desired length, and then tighten the ring before lifting the caption.

CAUTION: The aluminum caption changer can conduct electricity. Do not use it within 20-feet of power lines. Also be careful when using the caption changer in high or gusting winds. Wind may catch the panel and unhook it from the changer or make it difficult to maintain a grip on the pole. Hold the pole tightly in windy conditions.

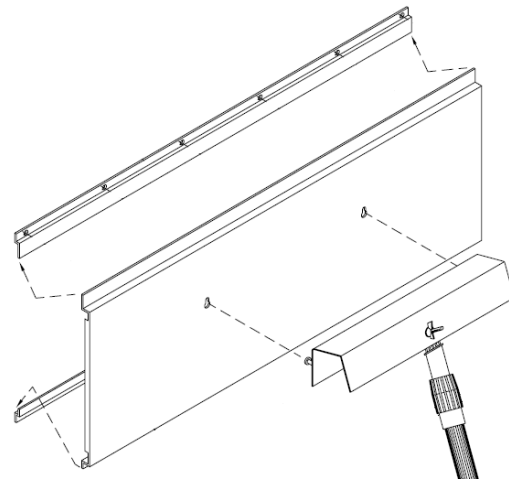
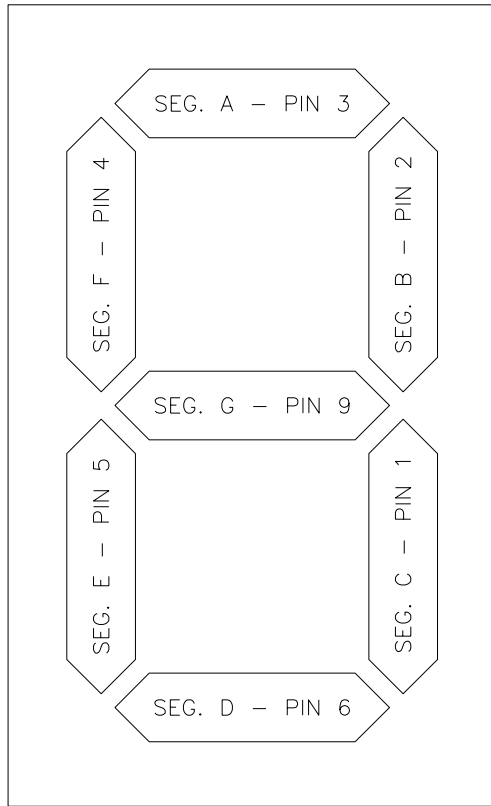


Figure 40: Changing Scoreboard Captions

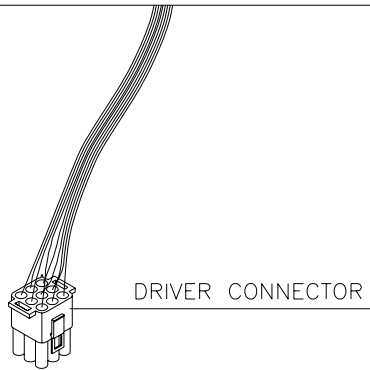
Appendix A: Reference Drawings

Segmentation, 7 Segment Bar Digit	Drawing A-38532
Ad Panel Mounting.....	Drawing A-52187
Address Table, 1 Through 128	Drawing A-115078
Address Table, 129 Through 255	Drawing A-115079
Installation Specifications, BA-3724	Drawing A-126445
Schematic, Multipurpose LED DRVR	Drawing A-165028
4 Column MASC LED Driver Specifications	Drawing A-166216
Schematic; GEN III & IV OD LED, 1 DRV w/TNMC	Drawing A-179790
Schematic; GEN III & IV, OD LED, 3 DRV w/TNMC	Drawing A-180081
Schematic; GEN III & IV, O.D. LED, 2 DRVR Display	Drawing A-180637
Scoreboard Mtg; Scoreboard with Spacers	Drawing A-182909
Schematic, Baseball G4 w/SOP & Opt. TNMC & TOD	Drawing B-204725
Schematic; Amber TNMC GEN IV.....	Drawing A-252645
Schematic; Red TNMC GEN IV.....	Drawing A-252681
Component Locations; 832/848/864 Red/Amb LED, TNMC, G4	Drawing A-257029
Schematic; GEN IV Outdoor LED, 16 Col Driver.....	Drawing A-285779
Specifications; LED Driver IV, 16 Col	Drawing A-288137
Address Table 1; GEN IV Driver Address Dip Switch.....	Drawing A-290261
Schematic; 832/864 RED TNMC GEN IV, 240V	Drawing A-294858
Schematic; 832/848/864 Amber GEN IV, 240V.....	Drawing A-294919
Schematic; FB/SO-20XX 18' GEN IV SCBDS.....	Drawing B-298205
Schematic; FB/SO-20XX 25' GEN IV SCBDS.....	Drawing B-298352
16' Width Scoreboard Installation Specs	Drawing A-298975
18' Width Scoreboard Installation Specs	Drawing A-302416
20' Width Scoreboard Installation Specs	Drawing A-303616
Component Location; FB-2018-11/-21, G4.....	Drawing A-305748
Component Location; FB-2019-11/-21, G4.....	Drawing A-305749
Component Location; FB-2020-11/-21, G4.....	Drawing A-305750
Component Location; FB-2021-11/-21, G4.....	Drawing A-305751
Component Location; FB-2022-11/-21, G4.....	Drawing A-305752
Component Location; FB-2023-11/-21, G4.....	Drawing A-305753
Component Location; SO-2018-11/-21, G4.....	Drawing A-305800
Component Location; SO-2019-11/-21, G4.....	Drawing A-305803
Component Location; SO-2021-11/-21.....	Drawing A-305804
Component Location; SO-2022-11/-21.....	Drawing A-305807
Component Location; SO-2023-11/-21.....	Drawing A-305808
Display Mounting; Outdoor Sports Extrusion	Drawing A-308051
Schematic; FB-3010 GEN IV SCBD	Drawing B-315137
Component Location; FB-3010-11/-21, G4.....	Drawing A-316034
25' Width Scoreboard Installation Specs	Drawing A-316750
28' Width Scoreboard Installation Specs	Drawing A-316971
32' Width Scoreboard Installation Specs	Drawing A-317264
Component Location; BA-3718-11/-21, G4	Drawing A-321817
Component Location; BA-1518-11/-21, G4	Drawing A-322425
Schematic; 240V GEN IV Outdoor LED, 16 COL Driver	Drawing A-324504
Address Table: Driver- MCAST G2- TNMC Switch	Drawing A-328274
Component Location; BA-1524-11/-21, G4	Drawing A-329448
Component Location; BA-3724-11/-21, G4	Drawing A-385478

Schematic; FB/SO-20XX 32' GEN IV SCBDS	Drawing B-576754
Component Location; FB-2024-11/-21, Vinyl, G4	Drawing A-580578
Component Location; FB-2025-11/-21, Vinyl, G4	Drawing A-583033
Component Location; FB-2026-11/-21, Vinyl G4	Drawing A-584382
Component Locations; MS-2009-11/-21 W/ TNMC	Drawing A-745603
Schematic; 3 DRVR, TNMC, G4	Drawing A-751690
Schematic; 1 DRVR, TNMC, Gen IV.....	Drawing A-752372
Schematic, OD, 3500, 34mm TNMC, Red/Amb	Drawing B-783938
Specifications; Driver, MCAST, 4 Col.....	Drawing A-793970
Component Location; SO-2011-11/-21, G4	Drawing A-863378
Component Location; MS-2918-11/-21, G4	Drawing A-863667
Component Location; BA-2013-11/-21, G4.....	Drawing A-864005
Schematic; 2 Driver w/TNMC, MST TOP, SLV BTM	Drawing B-876548
Schematic, OD, 3500, 34mm TNMC, Wht.....	Drawing B-906385
Schematic, OD, 3500, 46mm, Amb/Wht.....	Drawing B-923940
Schematic, OD, 3500, 46mm, Red/Amb.....	Drawing B-923941
Schematic, 2 Drvr, Ext P.S., SLV T, MST B, TNMC Opt	Drawing B-930720
Component Loc.; 34mm Red/Amb/Wht LED TNMC G4.....	Drawing B-975100
Component Loc.; 46mm Red/Amb/Wht LED TNMC G4.....	Drawing B-975635
Schematic; 2 DRVR, Gen IV, TNMC, Caption, MSTR Top.....	Drawing B-1007768
Schematic, OD, 3500, 46mm, Wht	Drawing B-1036125



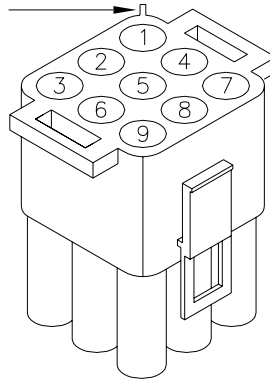
7 SEGMENT BAR DIGIT
FRONT VIEW



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.

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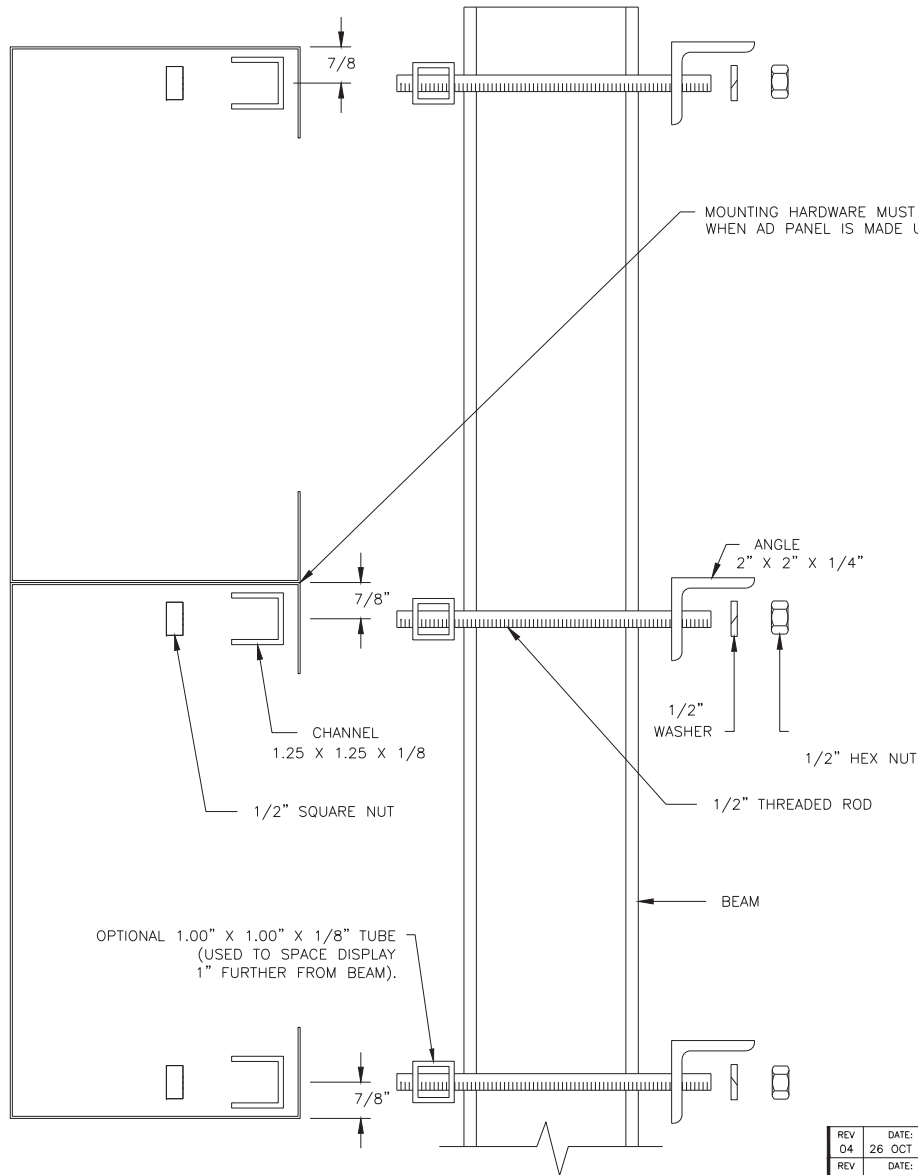
PROJ: BASKETBALL

TITLE: SEGMENTATION, 7 SEGMENT BAR DIGIT

DES. BY: DRAWN BY: HEIDERSCHIEDT DATE: 5 JUN 89

REVISION 02 APPR. BY: AVB SCALE: 1=4 1009-R04A-38532

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	



MOUNTING INSTRUCTIONS:

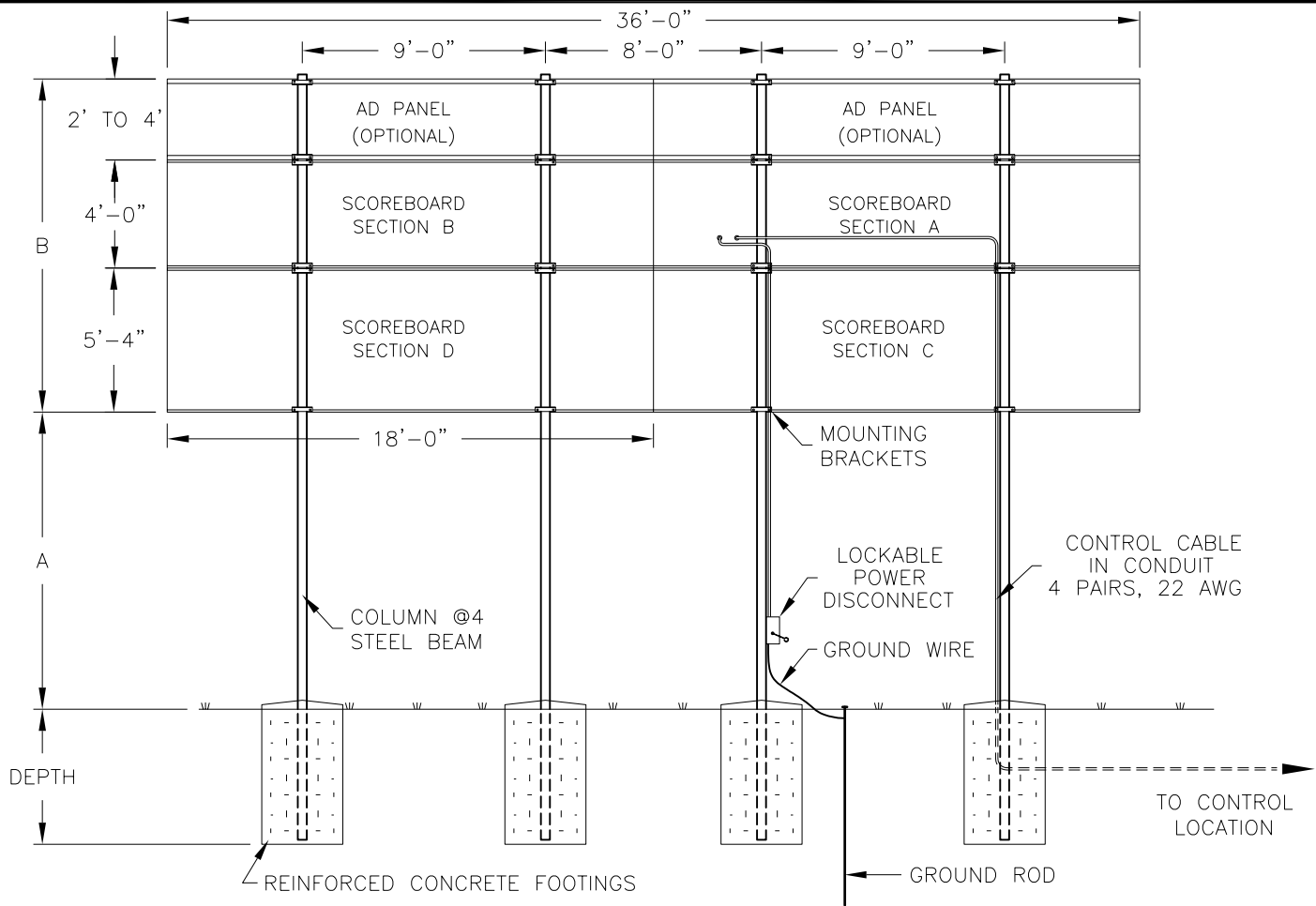
1. USE THE MOUNTING CHANNEL TO DETERMINE WHICH HOLE COMBINATION SHOULD BE USED. BE SURE TO KEEP THE BOLTS AS CLOSE TO THE BEAM AS POSSIBLE.
2. USING THE MOUNTING CHANNEL AS A TEMPLATE, DRILL 9/16" HOLES IN THE UPPER AND LOWER REAR FLANGE OF AD PANEL WHERE THE SUPPORTS WILL GO.
3. PLACE SQUARE NUTS INSIDE 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 04	DATE: 26 OCT 11	ADDED NOTE FOR USING MOUNTING HARDWARE AT AD PANEL SPLICES	BY: MBC
REV 03	DATE: 12 APR 10	ADDED 1" TUBE SPACER	BY: KDD
REV 02	DATE: 13 AUG 97	INCLUDED INSTRUCTIONS FOR AD PANELS WITH BACKSHEETS	BY: JAA
REV 01	DATE: 26 MAY 93	ADDED DESCRIPTION TEXT TO PARTS.	BY: MGG

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DO NOT SCALE DRAWING			
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE: AD PANEL MOUNTING			
DESIGN:	DRAWN: MGUNDEPERSON		DATE: 09 JUL 92
SCALE: NONE	SHEET	REV	JOB NO.
	04	P1091	FLUNC-TYPE-SIZE
			R-10-B
			52187



REAR VIEW

BA-3724

ELECTRICAL

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

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 5 to 10 inches in this chart.

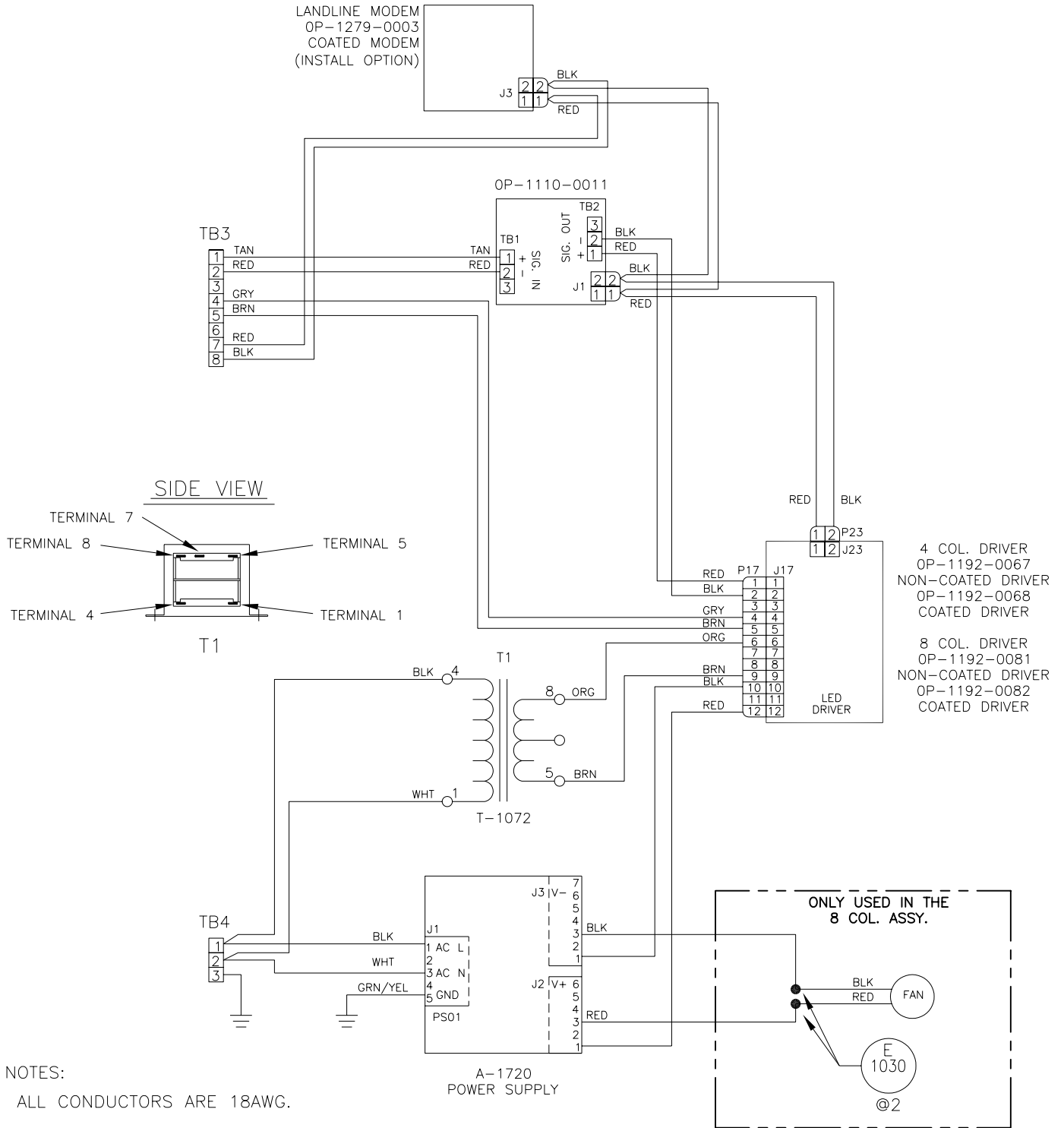
MODEL BA-3724						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10 FT	NONE	9'-4"	BEAM	W8x31	W10x33	W8x40
			FOOTING	3.5'x5.6'	3.5'x6.2'	3.5'x7.3'
	2 FT	11'-4"	BEAM	W8x35	W10x39	W8x48
			FOOTING	3.5'x6.1'	3.5'x6.7'	3.5'x8.0'
	4 FT	13'-4"	BEAM	W8x40	W8x48	W12x58
			FOOTING	3.5'x6.6'	3.5'x7.3'	3.5'x8.6'
14 FT	NONE	9'-4"	BEAM	W10x39	W12x45	W10x49
			FOOTING	3.5'x6.1'	3.5'x6.7'	3.5'x7.9'
	2 FT	11'-4"	BEAM	W12x45	W8x48	W10x60
			FOOTING	3.5'x6.6'	3.5'x7.3'	3.5'x8.6'
	4 FT	13'-4"	BEAM	W10x49	W12x58	W10x68
			FOOTING	3.5'x7.1'	3.5'x7.8'	3.5'x9.2'
18 FT	NONE	9'-4"	BEAM	W10x49	W10x54	W10x68
			FOOTING	3.5'x7.1'	3.5'x7.8'	3.5'x9.2'
	2 FT	11'-4"	BEAM	W12x58	W12x65	W12x79
			FOOTING	3.5'x7.6'	3.5'x8.4'	3.5'x9.9'
	4 FT	13'-4"	BEAM	W12x65	W12x72	W14x90
			FOOTING	3.5'x8.1'	3.5'x8.9'	3.5'x10.5'

FOOTING = DIAMETER X DEPTH

REV.	DATE	DESCRIPTION	BY	APPR.
02	30 AUG 07	REMOVED FAN HOODS	KDD	
01	12DEC00	REVISED BEAM SECTIONS & FOOTINGS.	MVD	

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE: INSTALLATION SPECIFICATIONS, BA-3724			
DES. BY: BPETERSON	DRAWN BY: MVANDYK	DATE: 12JAN00	
REVISION	APPR. BY:	1091-R10A-126445	
02	SCALE: 1=80		

LANDLINE MODEM
OP-1279-0003
COATED MODEM
(INSTALL OPTION)



4 COL. DRIVER
OP-1192-0067
NON-COATED DRIVER
OP-1192-0068
COATED DRIVER

8 COL. DRIVER
OP-1192-0081
NON-COATED DRIVER
OP-1192-0082
COATED DRIVER

NOTES:
ALL CONDUCTORS ARE 18AWG.

A-1720
POWER SUPPLY

08	17 DEC 03	CHANGED WIRE COLORS OF T1 CONNECTIONS. ADDED SIDE VIEW OF T1.	JBS	
07	29 APR 03	ADDED T1, FOR TIMING.	TAS	MWM
06	24 FEB 03	CHANGED J3 ON POWER SUPPLY TO 7 PINS PER ECO-27985.	AVB	
05	14 JAN 03	CHANGED THE BLU TEXT TO RED ON TB3 CONNECTOR	CME	
04	24 OCT 02	CHANGED 12V DC WIRING CONNECTIONS FROM MASC DRIVER TO SIGNAL SURGE PROTECTOR, LANDLINE MODEM AND TERMINAL BLOCK	JBS	
03	29MAY02	MOVED WIRES GOING INTO PIN 6 & 9 OF P17 TO PIN 10 & 12 OF P17	NMB	
02	06 MAY 02	CHANGED WIRE COLORS FOR TB3 CONNECTIONS	MWM	
01	24APR02	ADDED TB3-7 & 8 CONNECTIONS TO 4 COL. LED DRIVER. ADDED P22 AND J22 ALSO.	THS	
REV.	DATE	DESCRIPTION	BY	APPR.

0A-1279-0086
MULTI PURPOSE HARNESS ASSY.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: DATA TIME LED DISPLAYS

TITLE: SCHEMATIC; MULTIPURPOSE LED DRVR

DES. BY: MMILLER

DRAWN BY: MMILLER

DATE: 08 APR 02

REVISION
08

APPR. BY:
SCALE: 1=1

1279-R03A-165028

OP-1192-0067 UNCOATED OR OP-1192-0068 COATED
4 COLUMN MASC LED DRIVER

J-27 RS232 COM	
PIN	FUNCTION
1	RX-P
2	TX-P
3	GND-N
4	+12V -P
5	DCD-P
6	RESET-P

J19 ADDRESS	
PIN	FUNCTION
1	GND-N
2	ADD0-N
3	ADD1-N
4	GND-N
5	ADD2-N
6	ADD3-N
7	GND-N
8	ADD4-N
9	ADD5-N
10	GND-N
11	ADD6-N
12	ADD7-N

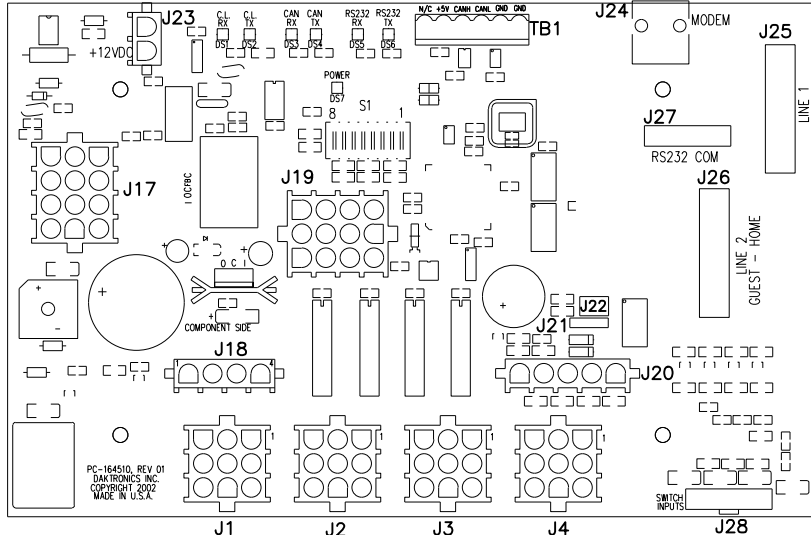
TB1 CAN	
PIN	FUNCTION
1	N/C
2	+5V-P
3	CANH-P
4	CANL-P
5	GND-N
6	GND-N

J24	
PIN	FUNCTION
1	MODEM_RTS-P
2	MODEM_RESET-P
3	MODEM_TX-P
4	GND-N
5	MODEM_RX-P
6	MODEM_DCD-P

J23 +12VDC	
PIN	FUNCTION
1	+12VDC-P
2	GND-N

J17 MAIN	
PIN	FUNCTION
1	CLIN-P
2	CLIN-N
3	232IN-P
4	CLOUT-P
5	CLOUT-N
6	16VAC-P
7	GND-N
8	N/C
9	16VAC-N
10	GND-N
11	N/C
12	+VBB-P

J18 RELAY	
PIN	FUNCTION
1	HORNOUT-N
2	AUXOUT2-N
3	120SW1-N
4	120SW1-P



J25			
FUNCTION	PIN	PIN	FUNCTION
L1_ID0-P	1	20	RED1-P
L1_ID1-P	2	19	GRN1-P
GND-N	3	18	L1_LATCH-P
GND-N	4	17	L1_DIM-P
GND-N	5	16	RED2-P
GRN2-P	6	15	RED3-P
GND-N	7	14	L1_CLK-P
GND-N	8	13	GRN3-P
L1_ID2-P	9	12	RED4-P
L1_ID3-P	10	11	GRN4-P

J26			
FUNCTION	PIN	PIN	FUNCTION
L2_ID0-P	1	20	RED1-P
L2_ID1-P	2	19	GRN1-P
GND-N	3	18	L2_LATCH-P
GND-N	4	17	L2_DIM-P
GND-N	5	16	RED2-P
GRN2-P	6	15	RED3-P
GND-N	7	14	L2_CLK-P
GND-N	8	13	GRN3-P
L2_ID2-P	9	12	RED4-P
L2_ID3-P	10	11	GRN4-P

J1-4 DIGIT	
PIN	FUNCTION
1	SEGC-N
2	SEGB-N
3	SEGA-N
4	SEGF-N
5	SEGE-N
6	SEGD-N
7	+VBB-P
8	SEGH-N
9	SEGG-N

J20 PROTOCOL	
PIN	FUNCTION
1	GND
2	PRO-N
3	PR1-N
4	PR2-N
5	PR3-N

J21 ISP	
PIN	FUNCTION
1	VFP-P
2	BKD-P
3	GND-N
4	RESET-P


J28 SWITCH	
PIN	FUNCTION
1	SWITCH1-P
2	SWITCH1-N
3	SWITCH2-P
4	SWITCH2-N
5	SWITCH3-P
6	SWITCH3-N
7	SWITCH4-P
8	SWITCH4-N

J22 ISP	
PIN	FUNCTION
1	BKD-P
2	GND-N
3	N/C
4	RESET-P
5	VFP-P
6	+5V-P

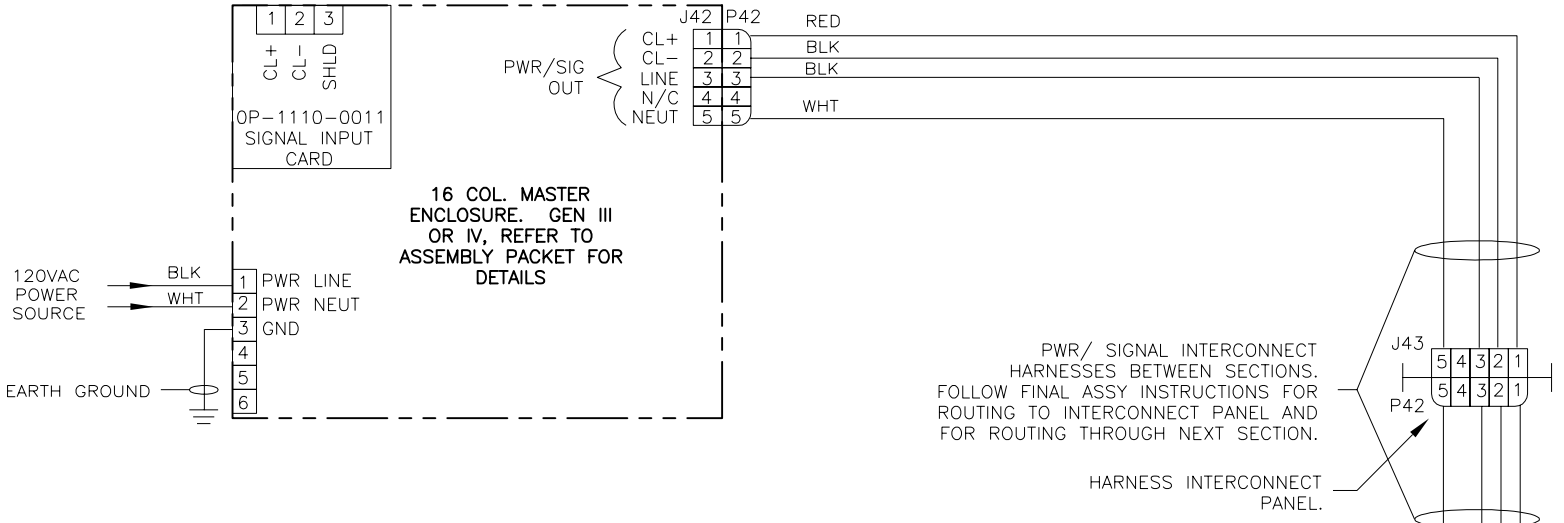
NOTE:

- RED LED CL RX WILL BE ON OR BLINKING WHEN THE DRIVER IS RECEIVING SIGNAL AND OFF WHEN THERE IS NO SIGNAL WITH CL
- GREEN LED CL TX WILL BE ON OR BLINKING WHEN THE DRIVER IS RECEIVING SIGNAL AND OFF WHEN THERE IS NO SIGNAL WITH CL
- RED LED CAN RX WILL BE BLINKING WHEN THE DRIVER IS RECEIVING SIGNAL AND ON WHEN THERE IS NO SIGNAL WITH CAN
- GREEN LED CAN TX WILL BE BLINKING WHEN THE DRIVER IS RECEIVING SIGNAL AND ON WHEN THERE IS NO SIGNAL WITH CAN
- IF THERE IS NOT A CAN DEVICE CONNECTED TO TB1, CAN RX AND TX LEDS WILL BE ON AND STEADY.
- RED LED RS232 RX WILL BE ON OR BLINKING WHEN THE DRIVER IS RECEIVING SIGNAL AND OFF WHEN THERE IS NO SIGNAL WITH RS232
- GREEN LED RS232 TX6 WILL BE ON OR BLINKING WHEN THE DRIVER IS RECEIVING SIGNAL AND OFF WHEN THERE IS NO SIGNAL WITH RS232
- GREEN LED POWER INDICATES THE DRIVER HAS POWER

REV	DATE:	CORRECTED S1 PINOUT	BY:
04	01 FEB 13		RBN
3	27 NOV 04	UPDATE DRIVER J-27 FOR CORRECT PIN OUT	BY:
			DMD
2	16 MAY 03	UPDATE DRIVER FOR LATEST REVISION OF MASC DRIVER.	BY:
			CJB
1	06JUN02	ADDED LED LABELS ADDED NEW NOTES	BY:
			JJS

 DAKTRONICS, INC. BROOKINGS, SD 57006 DO NOT SCALE DRAWING	THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2013 DAKTRONICS, INC.	
	PROJ: OUTDOOR LED SCOREBOARDS TITLE: 4 COLUMN MASC LED DRIVER SPECIFICATIONS	
DESIGN:	DRAWN: JSPAHR	DATE: 29 APR 02
SCALE: 1=2		
SHEET	REV	JOB NO:
	04	P 1192
FUNC -TYPE-SIZE		
R - 07 - A		
		166216

REV.	DATE	DESCRIPTION	BY	APPR.
02	08 MAY-03	CHANGED TNMC TEXT TO NEW GEN 3 AND ADDED NOTE	TAS	MMM
01	20 FEB 03	ADDED 16 COL- WIDE PART NUMBER AND CORRECTED SPELLING ON NEUT	MMM	



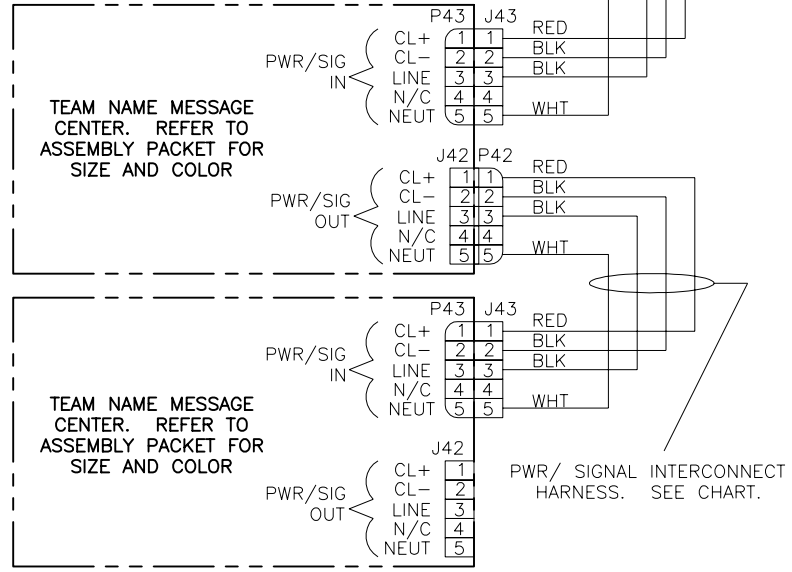
PWR/ SIGNAL INTERCONNECT HARNESES BETWEEN SECTIONS. FOLLOW FINAL ASSY INSTRUCTIONS FOR ROUTING TO INTERCONNECT PANEL AND FOR ROUTING THROUGH NEXT SECTION.

HARNESS INTERCONNECT PANEL.

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 HARNESES NEEDED AND INSTALLATION INSTRUCTIONS.

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'



NOTE:
CONNECT THE RIBBON CABLE TO THE TNMC DRIVER TO EITHER
J25 = HOME OR
J26 = GUEST.

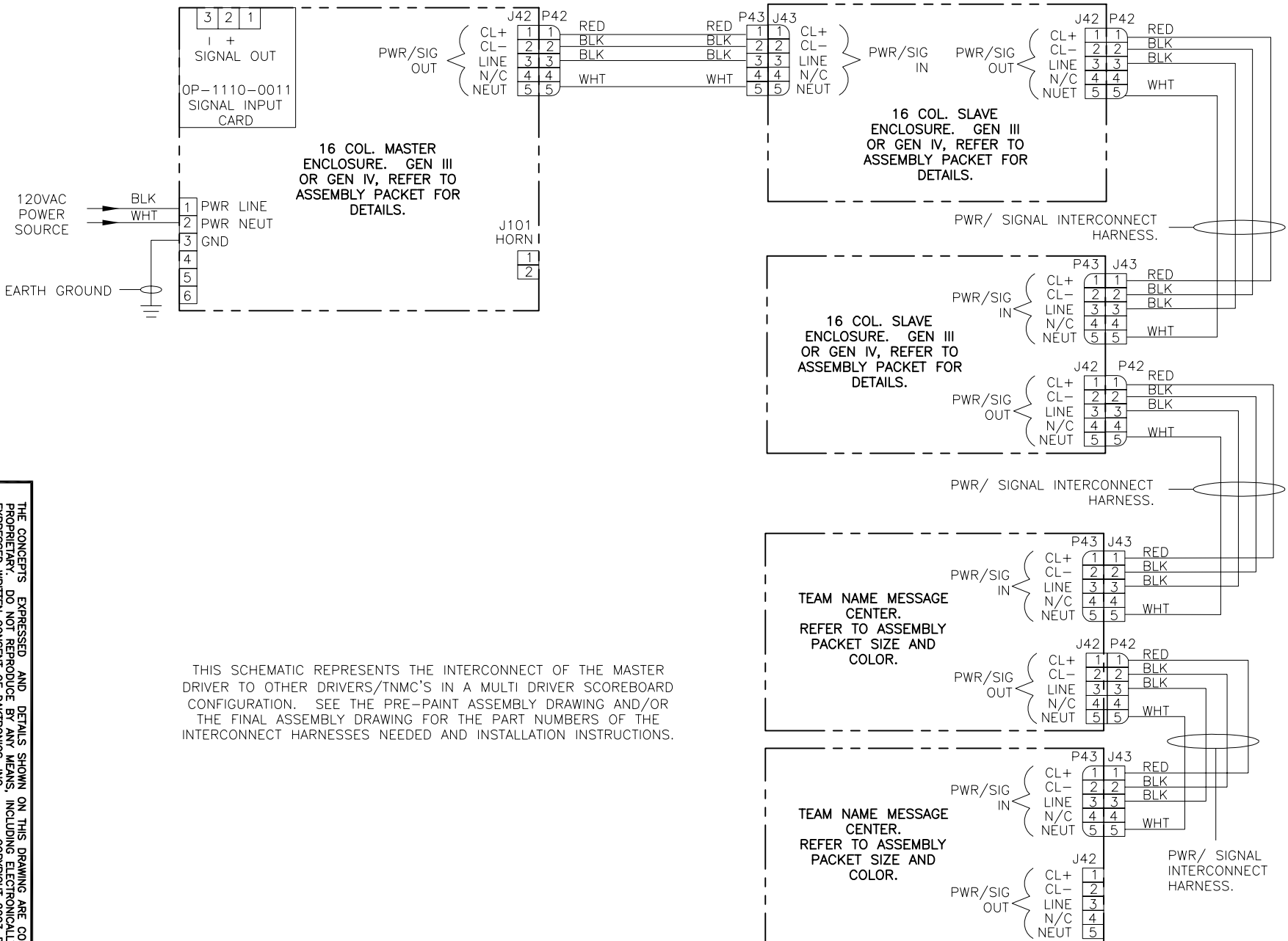
PROJ: OUTDOOR LED DIGIT SCOREBOARDS
 TITLE: SCHEMATIC; GEN III & IV OD LED, 1 DRV W/ TNMC
 DES. BY: ALINDHO DATE: 17 DEC 02
 DRAWN BY: ALINDHO

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DAKTRONICS, INC. BROOKINGS, SD 57006

REVISION 02
 APPR. BY: NONE
 SCALE: NONE
 1192-R01A-179790

REV.	DATE	DESCRIPTION	BY	APPR.
01	20 FEB 03	CORRECTED SPELLING ON NEUT ADDED 16 COL. WIDE PART NUMBERS.	MMM	
02	08 MAY-03	CHANGED TNMC TEXT TO NEW GEN 3 AND ADDED NOTE.	TAS	MMM



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.

NOTE:
CONNECT THE RIBBON CABLE TO THE TNMC DRIVER TO EITHER
J25 = HOME OR
J26 = GUEST.

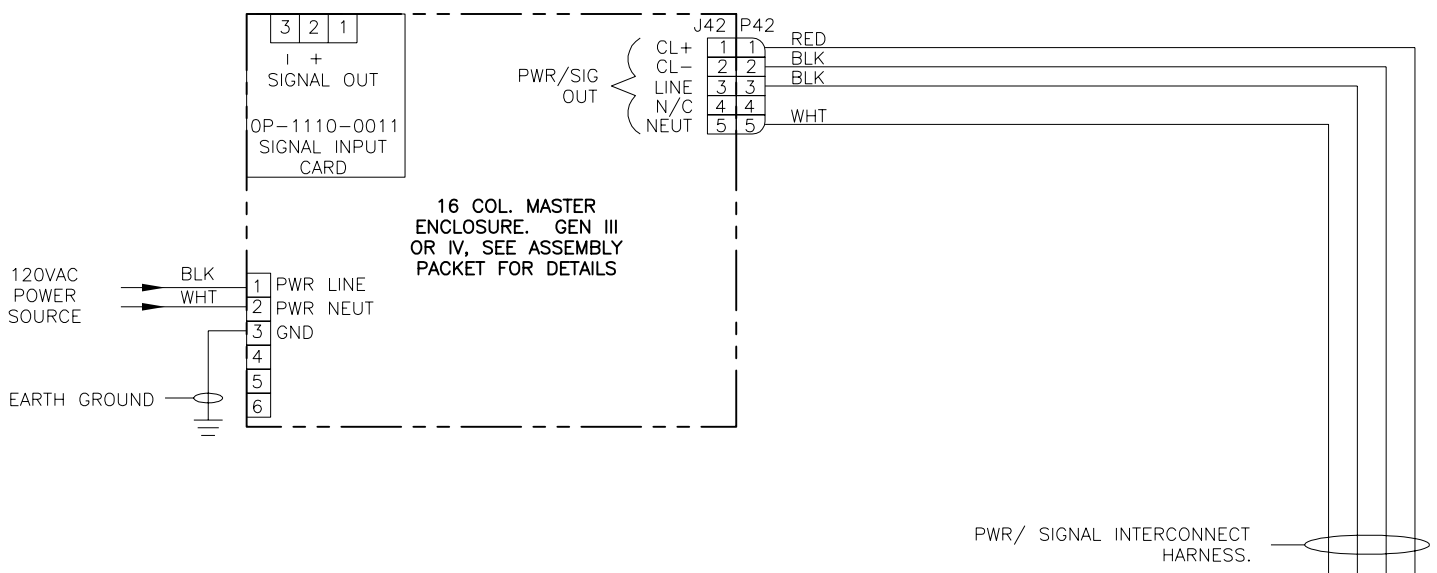
PROJ: OUTDOOR LED DIGIT SCOREBOARDS
TITLE: SCHEMATIC; GEN III & IV, 3 DRV W/ TNMC
DES. BY: ALINDHO
DRAWN BY: ALINDHO
DATE: 18 DEC 02

REVISION 02
APPR. BY: NONE
SCALE: NONE
1192-R10A-180081

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DAKTRONICS, INC. BROOKINGS, SD 57006

REV.	01	20 FEB 03	CORRECTED SPELLING ON NEUT ADDED 18 COL. WIDE PART NUMBERS.	DESCRIPTION	BY	MMM	APPR.
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PWR/SIG INTERCONNECT HARNESS

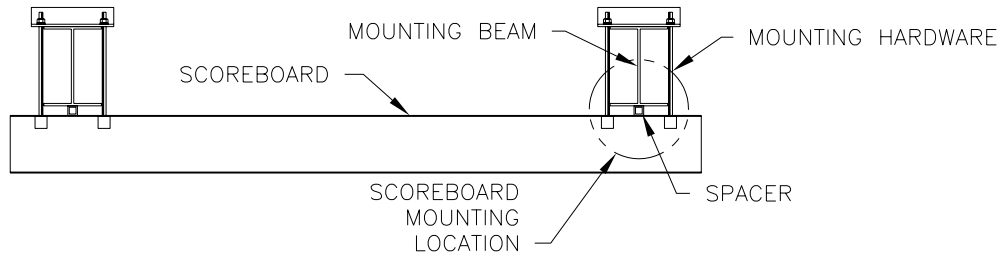
PART NUMBER	LENGTH
0A-1192-1028	4'
0A-1192-1029	8'
0A-1192-1030	10'
0A-1192-1031	12'
0A-1192-1032	16'
0A-1192-1033	22'
0A-1192-1034	26'
0A-1192-1083	30'
0A-1192-1084	35'

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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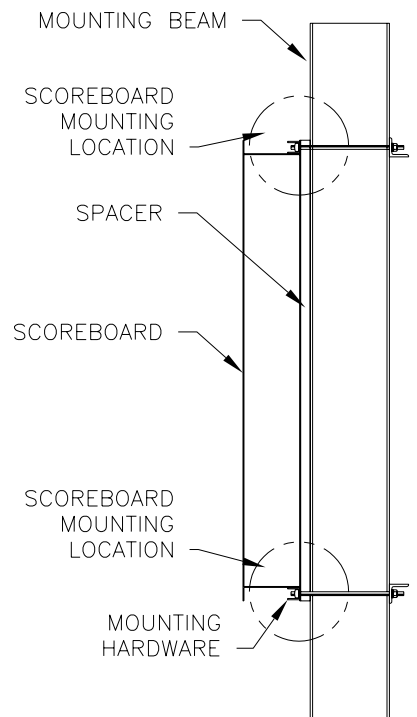
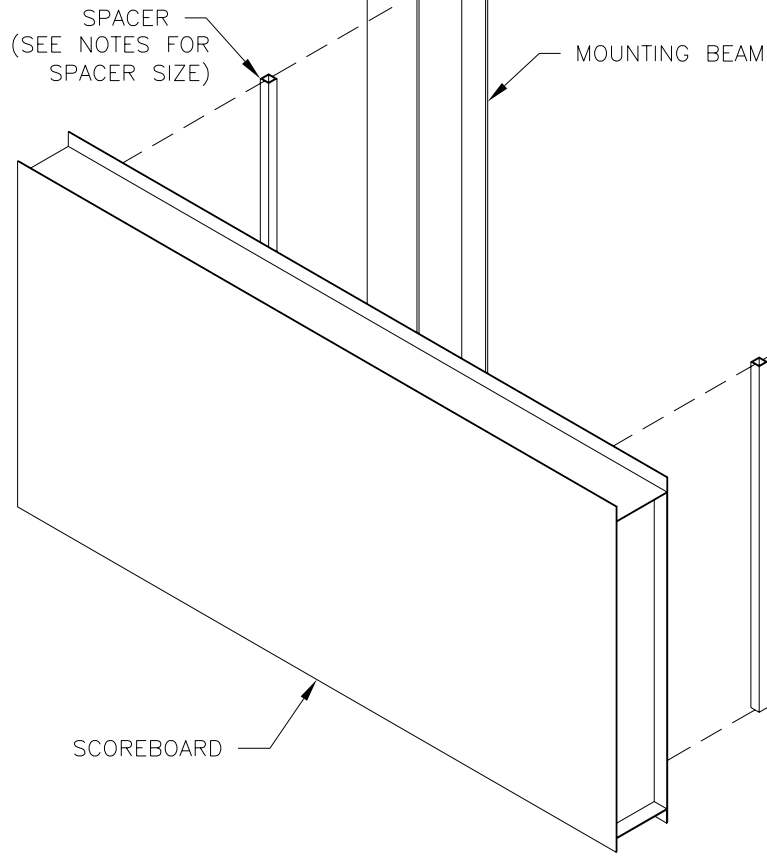
PROJ: OUTDOOR LED SCOREBOARDS
 TITLE: SCHEMATIC; GEN III & IV O.D. LED, 2 DRYR DISPLAY
 DES. BY: MILLER DRAWN BY: MILLER DATE: 03 JAN 02
 REVISION 01 APPR. BY: NONE SCALE: NONE 1192-R10A-180637

DAKTRONICS, INC. BROOKINGS, SD 57006



TOP VIEW

SPACERS TO BE PROVIDED BY THE CUSTOMER



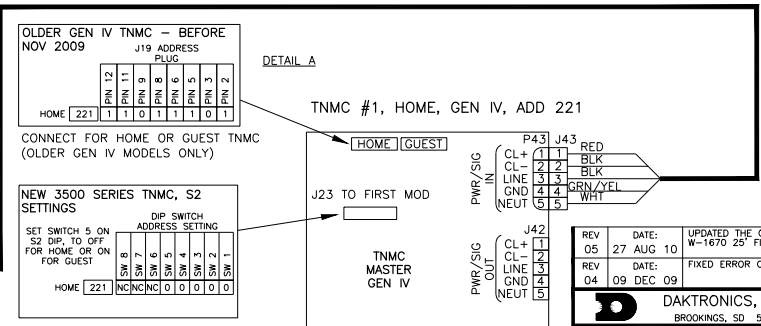
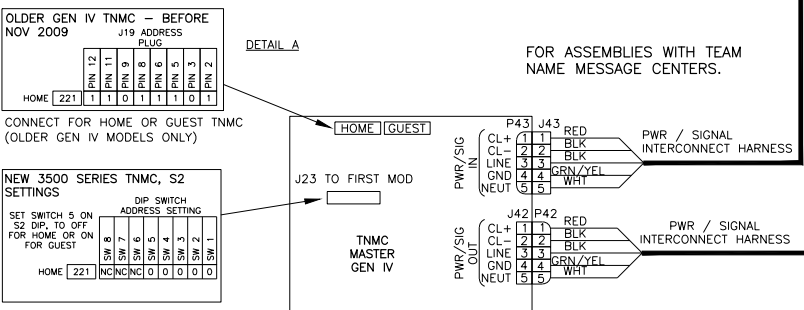
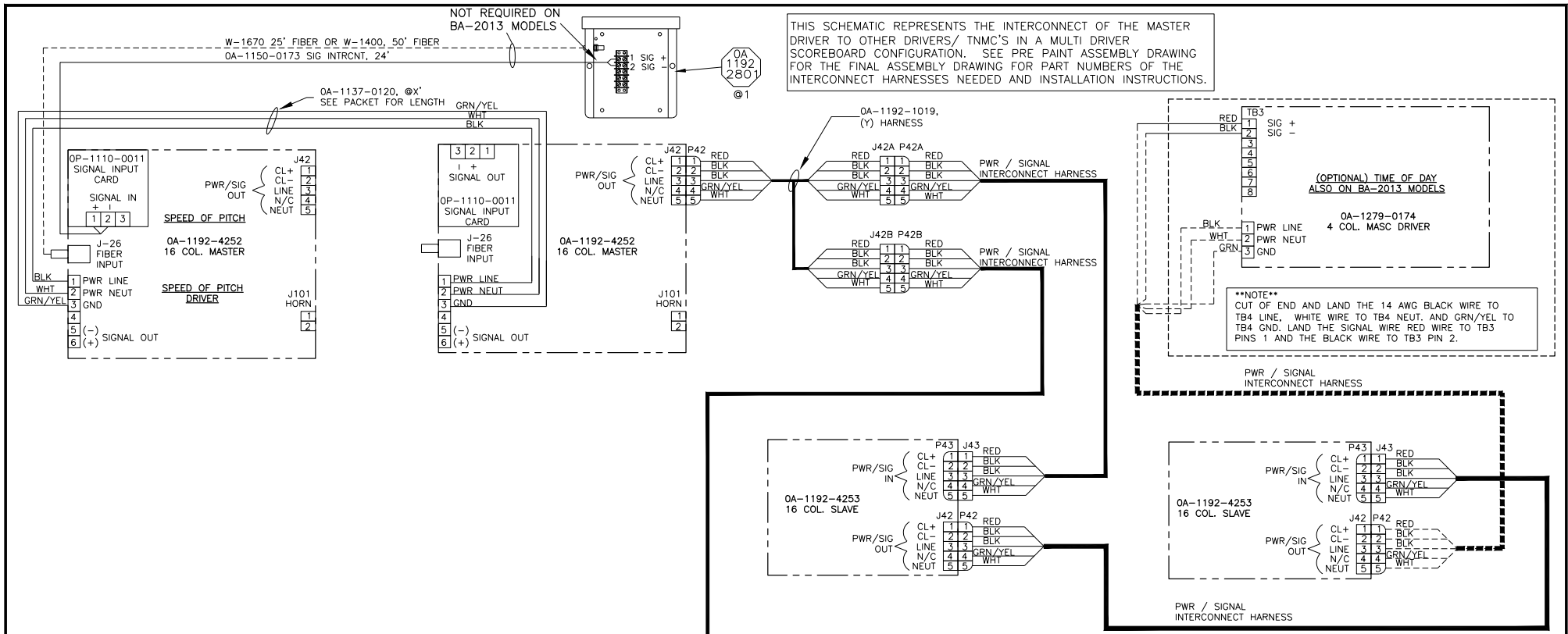
SIDE VIEW

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
REVISION	APPR. BY:
	SCALE: 1=20
1192-R08A-182909	

REV.	DATE	DESCRIPTION	BY	APPR.



TNMC #2, GUEST, GEN IV, ADD 221

REV 03	DATE: 05 FEB 09	UPDATED PWR/SIG HARNESSING FLOW.	BY: M/M
REV 02	DATE: 20 OCT 08	UPDATE RISER TO SHOW BETTER PWR/SIGNAL FLOW WITH OPTIONAL TIME OF DAY.	BY: M/M
REV 01	DATE: 18 JAN 08	ADDED TIME OF DAY OPTION.	BY: D/K

REV 05	DATE: 27 AUG 10	UPDATED THE OPTION OF USING W-1400 50' FIBER OR W-1670 25' FIBER	BY: J/J
REV 04	DATE: 09 DEC 09	FIXED ERROR ON Y HARNESS	BY: K/Z

DAKTRONICS, INC.
BROOKINGS, SD 57006

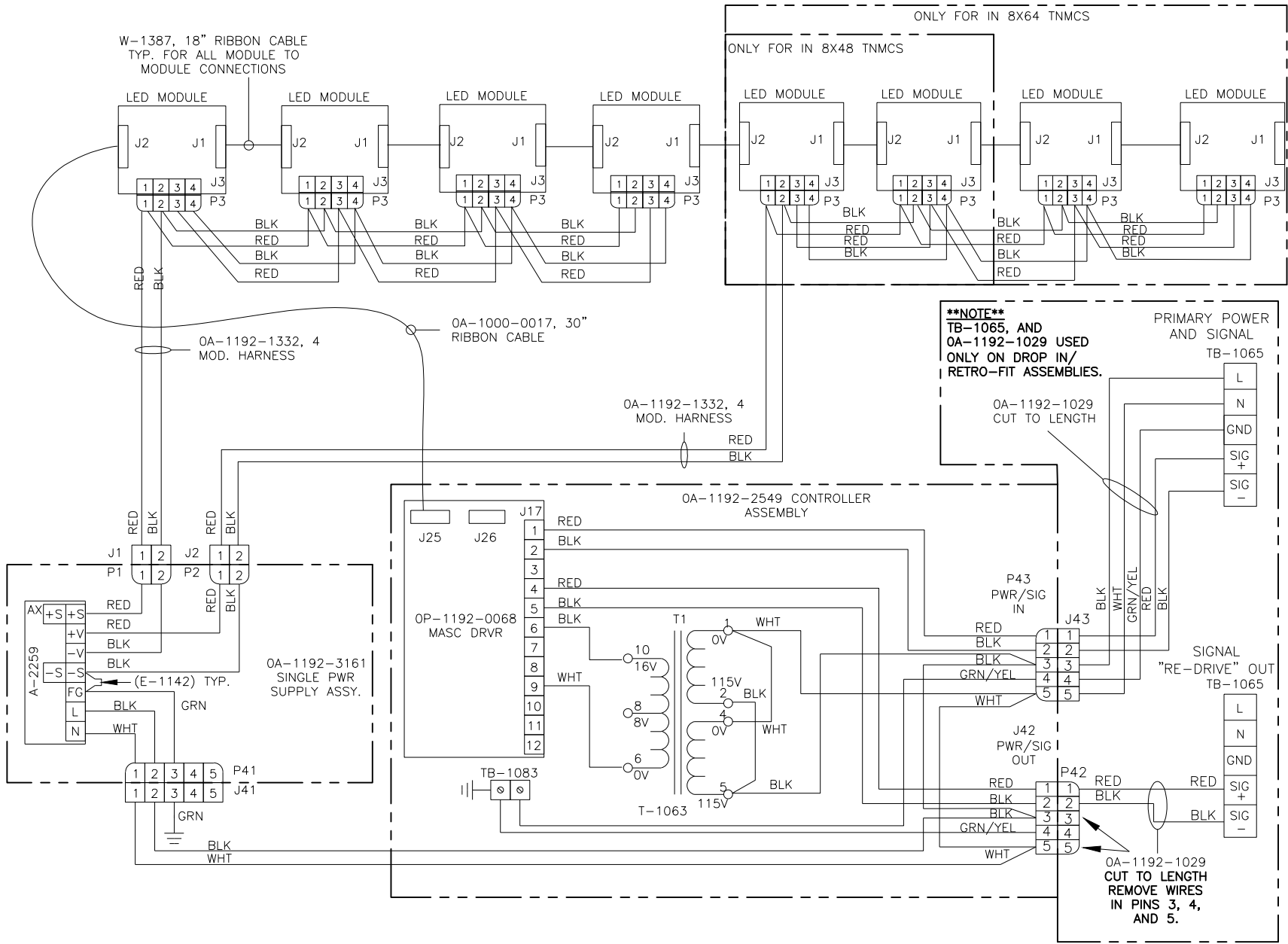
DO NOT SCALE DRAWING

PROJ: OUTDOOR LED SCOREBOARD
TITLE: SCHEMATIC, BASEBALL G4 W/ SOP & OPT. TNMC & TOD
DESIGN: MMILLER DRAWN: SLOWWAG DATE: 07 NOV 06
SCALE: NONE

SHEET	REV	JOB NO.	FLWC-TYPE-SIZE
05	1192		R-03-B

204725

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- OA-1192-3165 8X32 34MM AMBER TNMC G4
- OA-1192-3167 8X48 34MM AMBER TNMC G4
- OA-1192-XXX 8X64 34MM AMBER TNMC G4
- OA-1192-3229 8X32 34MM DROP IN/RETROFIT TNMC G4
- OA-1192-3231 8X48 34MM DROP IN/RETROFIT TNMC G4
- OA-1192-XXXX 8X64 34MM DROP IN/RETROFIT TNMC G4

REV	DATE	DESCRIPTION	BY	CHKD
REV 06	10 JUN 16	PER EC-2142, REPLACED A-1633 W/ A-2259	BY: KEO	
REV 05	16 SEP 09	ADDED MORE DETAIL TO POWER SUPPLY PER ECO 96884	BY: MWM	
REV 04	10 APR 07	ADDED TB-1065 GND TERMINAL BLOCK AND GROUND WIRES	BY: DMD	
REV 03	07 NOV 06	UPDATED TITLE TO INCLUDE 34 MM	BY: SAL	
REV 02	14 FEB 06	UPDATED PART NUMBERS AND EXPANDED DRAWING TO COVER 8MM OPTION	BY: MWM	
REV 01	01 DEC 05	CHANGED MOD PWR HARNESS FROM 2 PIN TO 4 PIN HARNESS	BY: SAC	

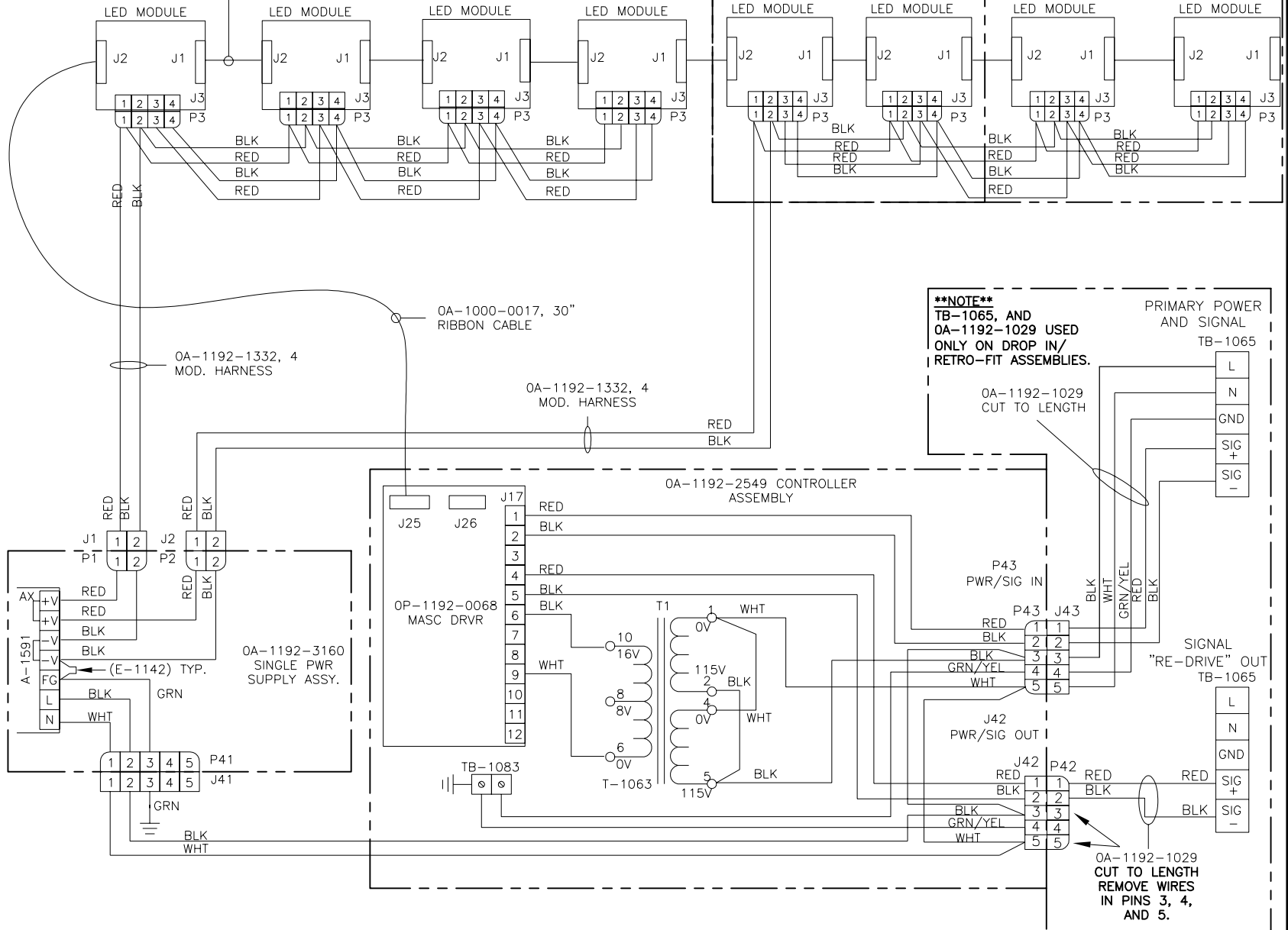
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THIRD ANGLE PROJECTION

PROJECT: OUTDOOR LED DIGIT SCOREBOARDS			
TITLE: SCHEMATIC: 34 MM AMBER TNMC GEN IV			
DATE: 31 AUG 05	DIM UNITS: INCHES [MILLIMETERS]	SHEET	REV
SCALE: NONE	DO NOT SCALE DRAWING		06
DESIGN: MMILLER	JOB NO. P1192	FUNC - TYPE - SIZE	
DRAWN: DDINING	R-01-A	252645	

- 0A-1192-3164 8X32 34MM RED TNMC G4
- 0A-1192-3166 8X48 34MM RED TNMC G4
- 0A-1192-XXX 8X64 34MM RED TNMC G4
- 0A-1192-3228 8X32 34MM DROP IN/RETROFIT TNMC G4
- 0A-1192-3230 8X48 34MM DROP IN/RETROFIT TNMC G4
- 0A-1192-XXXX 8X64 34MM DROP IN TNMC G4

W-1387, 18" RIBBON CABLE
TYP. FOR ALL MODULE TO
MODULE CONNECTIONS



****NOTE****
TB-1065, AND
0A-1192-1029 USED
ONLY ON DROP IN/
RETRO-FIT ASSEMBLIES.

PRIMARY POWER
AND SIGNAL
TB-1065

SIGNAL
"RE-DRIVE" OUT
TB-1065

0A-1192-1029
CUT TO LENGTH
REMOVE WIRES
IN PINS 3, 4,
AND 5.

04	09 APR 07	ADDED TB-1083 AND GND ON J42, & P43	DMD	APPR.
03	07 NOV 06	UPDATED TITLE TO INCLUDE 34 MM	SAL	BY
02	08 MAR 06	UPDATED DETAILS TO SHOW 64 LONG	MMM	BY
01	01 DEC 05	CHANGE POWER HARNESS TO MOD FROM 2 PIN TO 4 PIN	SJC	APPR.
REV.	DATE	DESCRIPTION		

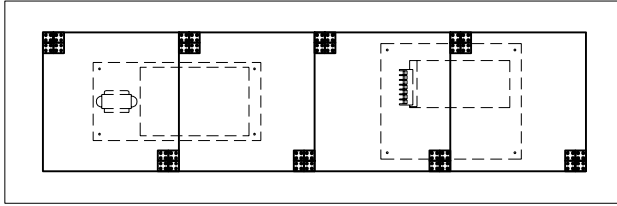
THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2005 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006

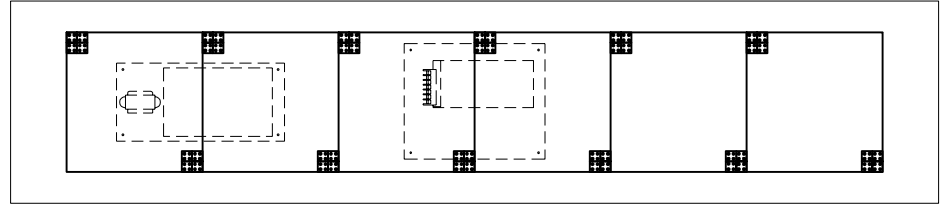
PROJ: OUTDOOR LED SCOREBOARDS
TITLE: SCHEMATIC; 34 MM RED TNMC GEN IV
DES. BY: DRAWN BY: DDINING
REVISION: APPR. BY: DATE: 30 AUG 05
04 SCALE: 1192-R01A-252681

REV.	01	DATE	20 DEC 07	DESCRIPTION	UPDATED DRAWING TO SHOW 864 TNMC MODELS.	BY	MMM	APPR.
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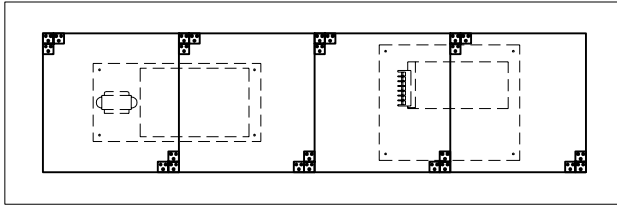
832 AMBER LED TNMC
OA-1192-3165



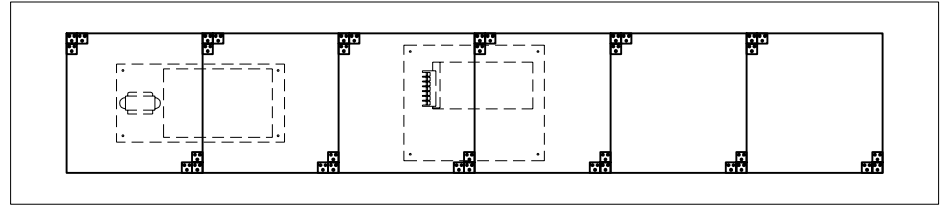
848 AMBER LED TNMC
OA-1192-3166



832 RED LED TNMC
OA-1192-3164

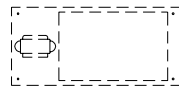
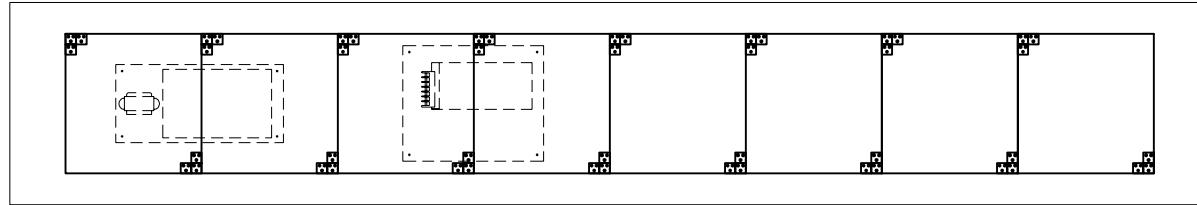


848 RED LED TNMC
OA-1192-3167



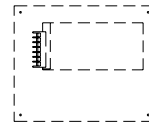
864 AMBER LED TNMC
OA-1192-3295

864 RED LED TNMC
OA-1192-3294



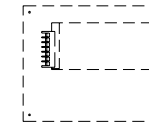
TNMC CONTROLLER
OA-1192-2549

USED IN RED & AMBER LED TNMCs



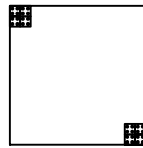
SINGLE POWER SUPPLY ASSEMBLY
OA-1192-3161

USED IN AMBER LED TNMCs

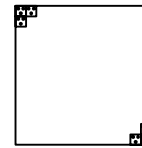


SINGLE POWER SUPPLY ASSEMBLY
OA-1192-3160

USED IN RED LED TNMCs



AMBER LED TNMC MODULE
OA-1208-4001
USED IN AMBER LED TNMCs



RED LED TNMC MODULE
OA-1208-4000
USED IN RED LED TNMCs

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PROJ.: OUTDOOR LED SCOREBOARDS
DAKTRONICS, INC. BROOKINGS, SD 57006

TITLE: COMPONENT LOC.: 832/842/864 RED/AMB LED TNMC G4

DES. BY: KBRICKER DRAWN BY: KBRICKER DATE: 08NOV05

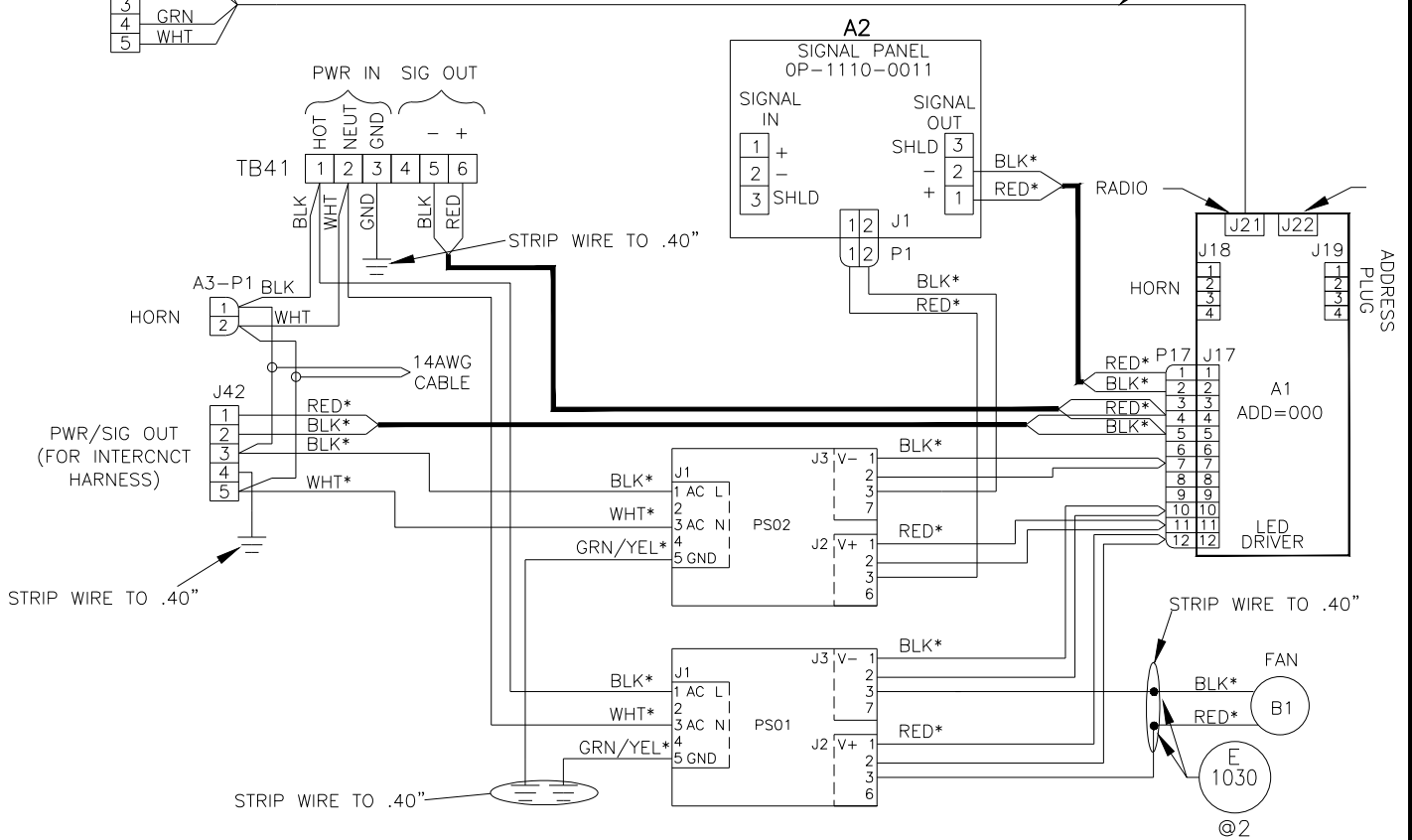
REVISION 01 APPR. BY: SCALE: 1=15 1192-R08A-257029

MASTER CONFIGURATION

OA-1192-4252 - 120VAC

OA-1192-2436 - 120VAC WIDE

OA-1388-0004



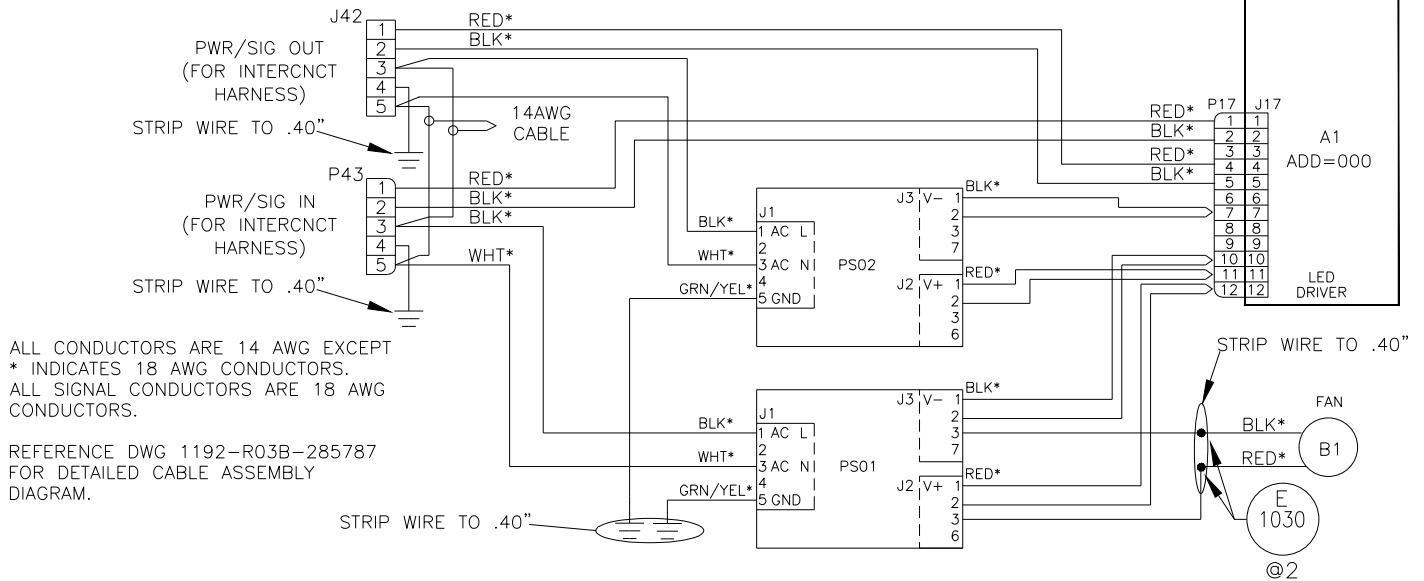
ALL CONDUCTORS ARE 14 AWG EXCEPT * INDICATES 18AWG CONDUCTORS.
ALL SIGNAL CONDUCTORS ARE ALSO 18 AWG CONDUCTORS.

REFERENCE DWG 1192-R03C-285776 FOR DETAILED CABLE ASSEMBLY DIAGRAM.

SLAVE CONFIGURATION

OA-1192-4253 - 120VAC

OA-1192-2437 - 120VAC WIDE



ALL CONDUCTORS ARE 14 AWG EXCEPT * INDICATES 18 AWG CONDUCTORS.
ALL SIGNAL CONDUCTORS ARE 18 AWG CONDUCTORS.

REFERENCE DWG 1192-R03B-285787 FOR DETAILED CABLE ASSEMBLY DIAGRAM.

REV 06	DATE: 17 OCT 10	STRIP LENGTH OF LOOSE-END WIRES ADJUSTED TO .40 INCHES, PER ECO 65629.	BY: SMB
REV 05	DATE: 05 NOV 07	REMOVED 240V FROM THIS DWG AND MADE NEW 324504 DWG FOR 240V SETUP.	BY: AMG
REV 04	DATE: 9 APR 07	ADDED GND WIRES TO P43, & J42	BY: DMD
REV 03	DATE: 11 MAR 07	ADDED TB41 FOR SIGNAL RE-DRIVE	BY: DMD
REV 02	DATE: 11 JAN 07	UPDATED 240V OA PACKET INFORMATION	BY: JDD

DAKTRONICS, INC.		BROOKINGS, SD 57006	
DO NOT SCALE DRAWING			
PROJ.: OUTDOOR LED SCOREBOARDS TITLE: SCHEMATIC: GEN IV OUTDOOR LED- 16 COL DRIVER DESIGN: _____ DRAWN: DDINING DATE: 25 SEP 06 SCALE: NONE			
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE
06	1192	R-03-A	285779

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LED DRIVER IV
 OP-1192-0383, 16 COL
 OP-1192-0384, 16 COL, AC

REFER TO DWGS
 A-115078 & A-115079
 FOR ADDRESS SETTINGS

REFER TO DWGS
 A-290261 & A-290689

S1 ADDRESS
 DIP SWITCH PACKAGE

J1-16 DIGIT JACKS

PIN	FUNCTION
1	SEGC-N
2	SEGB-N
3	SEGA-N
4	SEGF-N
5	SEGE-N
6	SEGD-N
7	+VBB-P
8	SEGH-N
9	SEGG-N

J17 PWR/SIG

PIN	FUNCTION
1	SIG-P
2	SIG-N (232-IN)
3	SIG 2-P(232-GND)
4	CLOUT-P
5	CLOUT-N
6	16VAC-N
7	GND-N
8	EARTH-N
9	16VAC-P
10	GND-N
11	+VDD-P
12	+VBB-P

J22 RC-100 RADIO

PIN	FUNCTION
1	+UNREG-P
2	GND-N
3	GND-N
4	RX_INPUT-P

J21 2.4GHz RADIO

PIN	FUNCTION
1	+UNREG-P
2	GND-N
3	GND-N
4	RX_INPUT-P

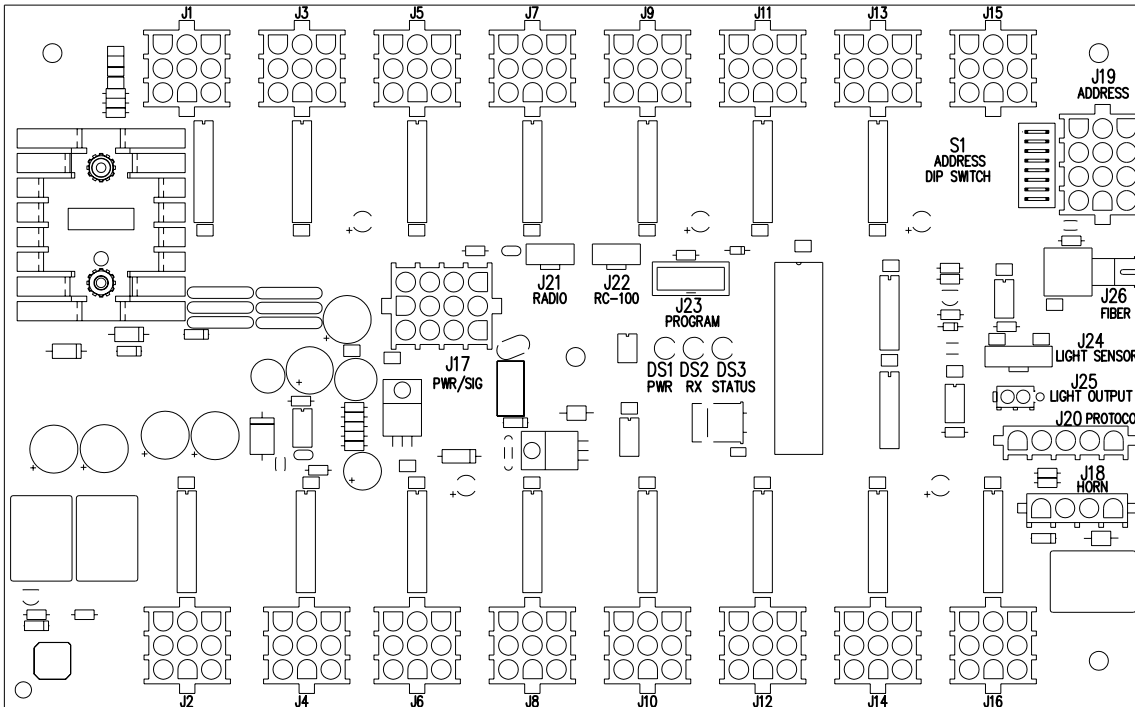
J23 PROGRAM

PIN	FUNCTION
1	DATA
2	/RESET
3	N/C
4	GND-N
5	CLK
6	GND-N
7	N/C
8	+5V-P
9	N/C
10	+5V-P

J19 ADDRESS

PIN	FUNCTION
1	GND-N
2	ADD0-N
3	ADD1-N
4	GND-N
5	ADD2-N
6	ADD3-N
7	GND-N
8	ADD4-N
9	ADD5-N
10	GND-N
11	ADD6-N
12	ADD7-N

SW #	FUNCTION
1	ADD0
2	ADD1
3	ADD2
4	ADD3
5	ADD4
6	ADD5
7	ADD6
8	ADD7



J26 FIBER RX

PIN	FUNCTION
1	N/C
2	+5V-P
3	GND-N
4	N/C
5	N/C
6	RX_INPUT-P
7	GND-N
8	N/C

J24 LIGHT SENSOR

PIN	FUNCTION
1	LIGHT_IN-P
2	LIGHT_IN-N
3	+5V-P
4	GND-N
5	GND-N
6	N/C

J25 LIGHT OUT- NEXT DRIVER

PIN	FUNCTION
1	LIGHT_OUT-P
2	LIGHT_OUT-N

REFER TO DWG A-115081
 FOR PROTOCOL SETTINGS

J20 PROTOCOL

PIN	FUNCTION
1	GND-N
2	PRO-N
3	PR1-N
4	PR2-N
5	PR3-N (TOD)

J18 HORN

PIN	FUNCTION
1	HORNOUT-N
2	AUXOUT-N
3	120SW-P
4	120SW-N

NOTES:

- WITH NO ADDRESS SELECTED, DRIVER WILL DEFAULT TO A/S 4000 PROTOCOL.
- GREEN LED DS1 INDICATES THAT THE DRIVER HAS POWER.
- RED LED DS2 WILL FLICKER WHEN THE DRIVER RECEIVES SIGNAL.
- AMBER LED DS3 WILL BLINK WHEN THE DRIVER IS RUNNING.
- IF DS3 IS ON OR OFF CONTINUOUSLY THE MICROCONTROLLER IS NOT WORKING.
- REFER TO DRAWING A-128429 FOR CURRENT LOOP REDRIVE SPECIFICATIONS.
- REFER TO DRAWING A-115081 FOR J20 PROTOCOL SETTINGS.
- REFER TO DRAWINGS A-115078,115079 FOR J19 ADDRESS SETTINGS.

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 2006 DAKTRONICS, INC.			
DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ:	SPECIFICATIONS; LED DRIVER IV, 16 COL		
DES. BY:	DRAWN BY:	DATE:	
DES. BY:	DRAWN BY: DULSCHM	DATE: 09 OCT 06	
REVISION	APPR. BY:	1192-R04A-288137	
02	SCALE: 1 = 2		

REV.	DATE	DESCRIPTION	BY	APPR.
02	30 NOV 06	ADDED ADDRESS SWITCH S1 TO DRAWING	DJU	
01	26 OCT 06	RESIZED TEXT SO THAT IT WAS EASIER TO READ, AND CLARIFIED FUNCTIONS OF EACH JACK.	AFL	

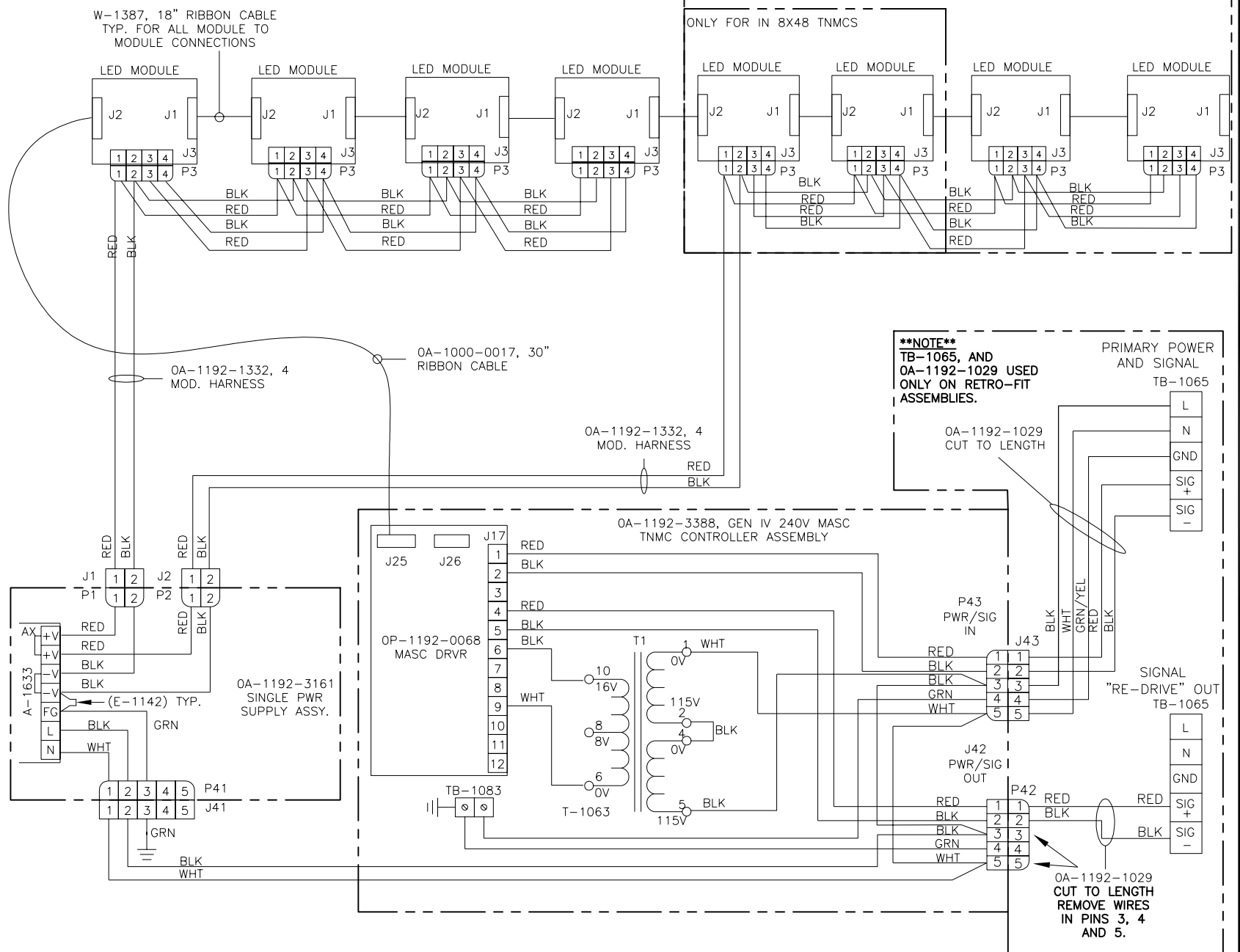
REV.	01	10 APR 07	ADDED TB-1083 GND TERMINAL BLOCK AND GROUND WIRES
DATE	02	14 NOV 07	EDITED PART NUMBERS FOR 34MM DROP-IN'S.
DESCRIPTION	BY	APPR.	
	DMD	AMG	

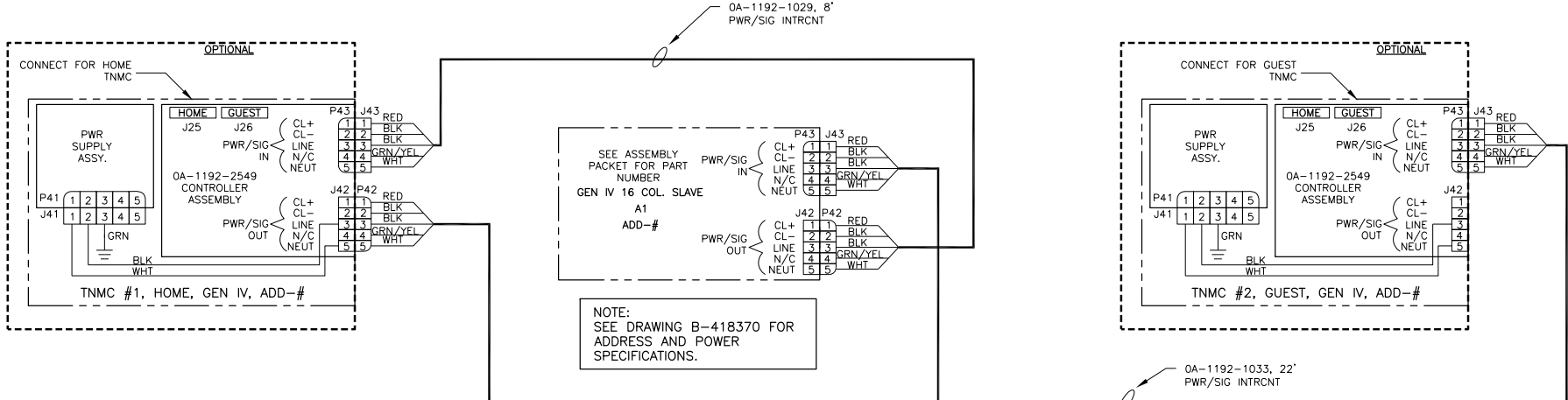
PROJ.	OUTDOOR LED SCOREBOARDS
TITLE	SCHEMATIC: 832 / 848 / 864 AMBER GEN IV, 240V
DES. BY	DDINING
DATE	18 JAN 07
REVISION	02
APPR. BY	NONE
SCALE	NONE
1192-R03A-294919	

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DAKTRONICS, INC. BROOKINGS, SD 57006

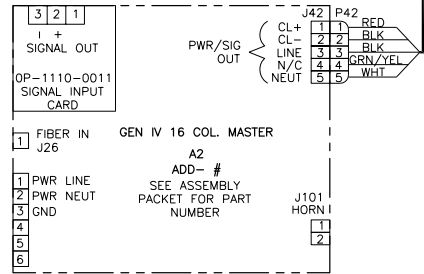
- 0A-1192-3390 8X32 34MM AMBER TNMC G4
- 0A-1192-3392 8X48 34MM AMBER TNMC G4
- 0A-1192-3394 8X64 34MM AMBER TNMC G4
- 0A-1407-XXXX 8X32 34MM DROP IN TNMC G4
- 0A-1407-0105 8X48 34MM DROP IN TNMC G4
- 0A-1407-XXXX 8X64 34MM DROP IN TNMC G4





W-1771 IS THE TOP SECTION FULL CABLE ASSEMBLY. IN CASE OF EMERGENCIES, THE INDIVIDUAL HARNESS NUMBERS ARE STILL LISTED.

W-1772 IS THE BTM SECTION FULL CABLE ASSEMBLY. IN CASE OF EMERGENCIES, THE INDIVIDUAL HARNESS NUMBERS ARE STILL LISTED.

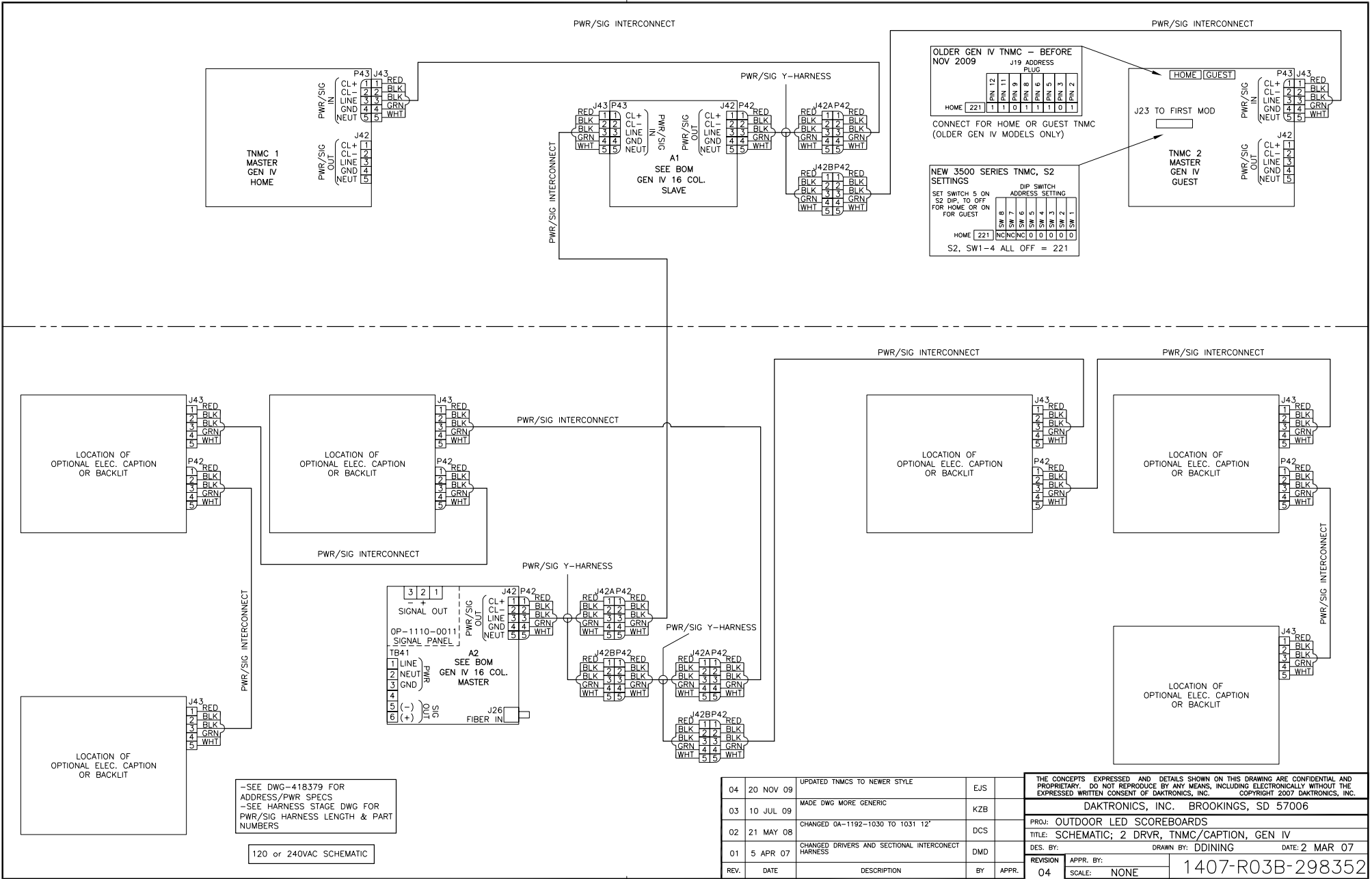


NOTE: SEE DRAWING B-418370 FOR ADDRESS AND POWER SPECIFICATIONS.

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 2007 DAKTRONICS, INC.

REV.	DATE	DESCRIPTION	BY	APPR.
03	19 JUN 09	REMOVED ADDRESS TABLE AND ADDED REFERENCE NOTE.	DKD	
02	06 NOV 07	UPDATED TEXT IN DRIVER BLOCKS TO REFER TO PACKETS. ALSO ADDED W- BULK TOP AND BOTTOM FULL HARNESS PART NUMBERS	MWM	
01	5 APR 07	CHANGED DRIVERS AND SECT INTERCONNECT HARNESS	DMD	

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	OUTDOOR LED SCOREBOARDS
TITLE:	SCHEMATIC: FB/SO-20XX 18' GEN IV SCBDS
DES. BY:	DDINING
DATE:	28 FEB 07
REVISION	APPR. BY:
03	SCALE: NONE
1407-R03B-298205	



REV.	DATE	DESCRIPTION	BY	APPR.
04	20 NOV 09	UPDATED TNMCS TO NEWER STYLE	EJS	
03	10 JUL 09	MADE DWG MORE GENERIC	KZB	
02	21 MAY 08	CHANGED 0A-1192-1030 TO 1031 12'	DCS	
01	5 APR 07	CHANGED DRIVERS AND SECTIONAL INTERCONNECT HARNESS	DMD	

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 2007 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: SCHEMATIC; 2 DRVR, TNMC/CAPTION, GEN IV

DES. BY: DRAWN BY: DDINING DATE: 2 MAR 07

REVISION APPR. BY: SCALE: NONE 1407-R03B-298352

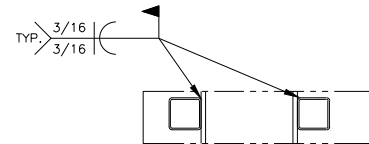
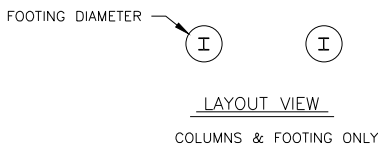
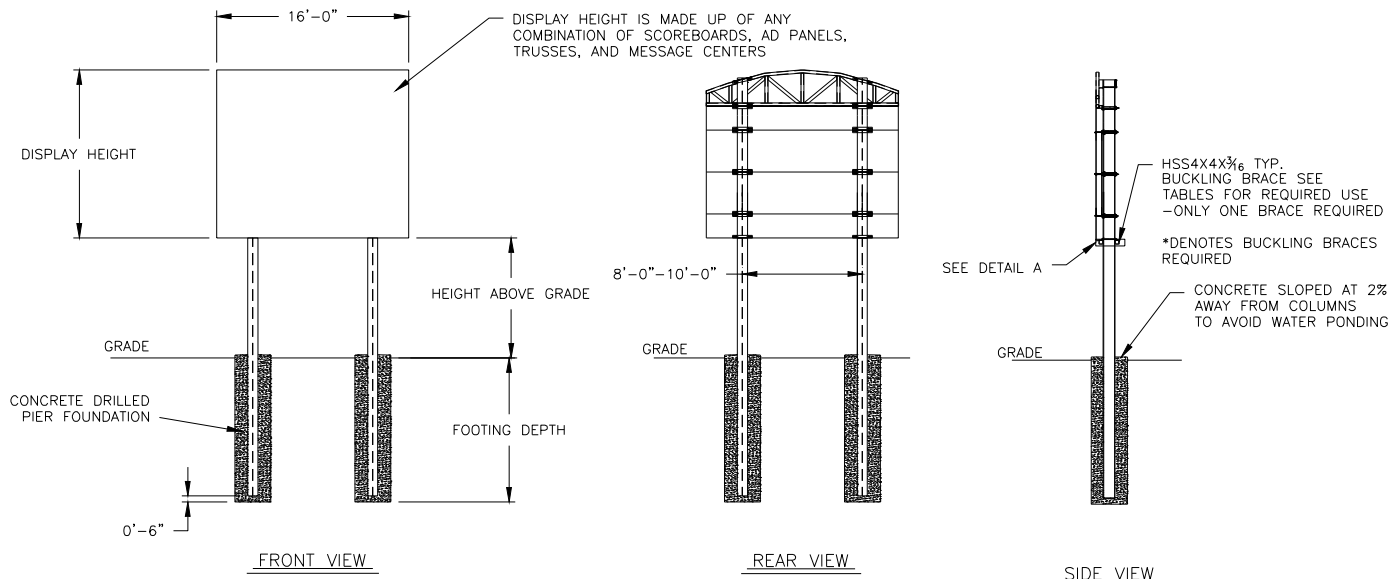


TABLE A - MOUNTING

EXPOSURE B

HEIGHT ABOVE GRADE = 10'				HEIGHT ABOVE GRADE = 15'					
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY		DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY			
		90 MPH	110 MPH			130 MPH	90 MPH	110 MPH	130 MPH
6	COLUMN FOOTING	W8X18 3.0'X6.0'	W8X21 3.0'X7.0'	W8X24 3.0'X8.0'	6	COLUMN FOOTING	W8X28 3.0'X7.0'	W8X28 3.0'X8.0'	W10X33 3.0'X9.0'
8	COLUMN FOOTING	W10X22 3.0'X7.0'	W12X26 3.0'X8.0'	W8X31 3.0'X9.0'	8	COLUMN FOOTING	W8X31 3.0'X7.5'	W8X35 3.0'X9.0'	W14X43 3.0'X10.0'
10	COLUMN FOOTING	W8X28 3.0'X7.5'	W8X31 3.0'X9.0'	W10X39 3.0'X10.0'	10	COLUMN FOOTING	W8X35 3.0'X8.5'	W14X43 3.0'X10.0'	W12X53 3.0'X11.0'
12	COLUMN FOOTING	W8X31 3.0'X8.5'	W10X39 3.0'X9.5'	W12X45 3.0'X11.0'	12	COLUMN FOOTING	W10X49 3.0'X9.0'	W10X49 3.0'X10.5'	W12X58 3.0'X12.0'
14	COLUMN FOOTING	W10X39 3.0'X9.0'	W10X45 3.0'X10.5'	W12X53 3.0'X12.0'	14	COLUMN FOOTING	W14X34* 3.0'X10.0'	W14X43* 3.0'X11.5'	W21X48* 3.0'X13.5'
16	COLUMN FOOTING	W14X43 3.0'X9.5'	W12X53 3.0'X11.0'	W14X61 3.0'X13.0'	16	COLUMN FOOTING	W12X40* 3.0'X10.5'	W21X48* 3.0'X12.0'	W21X55* 3.0'X15.0'

FOOTING DIMENSIONS = DIAMETER X DEPTH
*DENOTES BUCKLING BRACE REQUIRED

EXPOSURE C

HEIGHT ABOVE GRADE = 10'				HEIGHT ABOVE GRADE = 15'			
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY		DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY	
		90 MPH	110 MPH			90 MPH	110 MPH
6	COLUMN FOOTING	W8X21 3.0'X7.0'	W8X24 3.0'X8.0'	6	COLUMN FOOTING	W8X28 3.0'X7.5'	W10X33 3.0'X9.0'
8	COLUMN FOOTING	W12X26 3.0'X8.0'	W10X33 3.0'X9.0'	8	COLUMN FOOTING	W10X33 3.0'X8.5'	W14X43 3.0'X10.0'
10	COLUMN FOOTING	W8X31 3.0'X8.5'	W10X39 3.0'X10.0'	10	COLUMN FOOTING	W14X43 3.0'X9.5'	W12X53 3.0'X11.0'
12	COLUMN FOOTING	W10X39 3.0'X9.5'	W14X48 3.0'X11.0'	12	COLUMN FOOTING	W10X49 3.0'X10.5'	W12X58 3.0'X12.0'
14	COLUMN FOOTING	W10X45 3.0'X10.0'	W12X53 3.0'X12.0'	14	COLUMN FOOTING	W14X53* 3.0'X11.0'	W18X55* 3.0'X13.5'
16	COLUMN FOOTING	W10X49 3.0'X11.0'	W14X61 3.0'X13.0'	16	COLUMN FOOTING	W14X48* 3.0'X12.0'	W21X55* 3.0'X15.0'

FOOTING DIMENSIONS = DIAMETER X DEPTH
*DENOTES BUCKLING BRACE REQUIRED

NOTE:
-REFER TO NOTE 8 FOR EXPOSURE CATEGORY DEFINITIONS.

NOTES:

- FOOTING AND COLUMN SIZES ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES. THE DESIGN MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE INSTALLATION BEFORE THEY CAN BE USED FOR FABRICATION OR ERECTION.
- INTERNATIONAL BUILDING CODE 2006 USED IN DESIGN OF COLUMNS AND FOOTINGS WITH IMPORTANCE FACTOR=1, Kzt=1.0, Kd=0.85, G=0.85. SEISMIC DESIGN WAS NOT CONSIDERED.
- FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL CLASS 4 (ALLOWABLE LATERAL BEARING PRESSURE OF 150 psf).
- STRUCTURAL STEEL IS GRADE A992 (50 ksi) STEEL. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 psi.
- THE AVERAGE DISPLAY WEIGHT FOR A LAYOUT CAN NOT EXCEED 8 PSF.
- DAKTRONICS INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.
- REFER TO DAKTRONICS DRAWING 1407-E07B-299257 FOR DETAILS OF DISPLAY MOUNTING TO COLUMNS.
- LOCAL BUILDING OFFICIALS SHOULD BE CONTACTED TO DETERMINE THE WIND SPEED AND EXPOSURE CATEGORY FOR THE PROPOSED SIGN LOCATION. THE EXPOSURE CATEGORIES B AND C ARE DEFINED AS:

EXPOSURE B - URBAN AND SUBURBAN AREAS, WOODED AREAS, OR OTHER TERRAIN WITH NUMEROUS CLOSELY SPACED OBSTRUCTIONS HAVING THE SIZE OF SINGLE-FAMILY DWELLINGS OR LARGER. THESE CONDITIONS MUST PREVAIL FOR A DISTANCE FROM THE SIGN OF AT LEAST 2,600 FT OR 20 TIMES THE SIGN HEIGHT, WHICHEVER IS GREATER

EXPOSURE C - OPEN TERRAIN WITH SCATTERED OBSTRUCTIONS HAVING HEIGHTS GENERALLY LESS THAN 30 FT. THIS CATEGORY INCLUDES FLAT OPEN COUNTRY, GRASSLANDS, AND ALL WATER SURFACES IN HURRICANE PRONE REGIONS.
- FOR SPECIFIC PRODUCT DETAILS ON WEIGHT, MOUNTING, ETC. REFER TO THE INDIVIDUAL PRODUCT SPECIFICATION SHEETS.

REV 04	DATE: 26 OCT 11	ADDED "ONLY ONE BRACE REQUIRED" NOTE	BY: KDD
REV 03	DATE: 10 DEC 08	REMOVED PRODUCT TABLE AND CHANGED DRAWING TO A SIZE	BY: JKU
REV 02	DATE: 17 NOV 08	UPDATED CHARTS	BY: JDB
REV 01	DATE: 27 SEPT 07	ADDED TN-2652 TO TABLE B	BY: AJW

DAKTRONICS, INC. BROOKINGS, SD 57006		THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2011 DAKTRONICS, INC.	
DO NOT SCALE DRAWING			
PROJ: OUTDOOR SCOREBOARD INSTALLATION			
TITLE: 16' WIDTH SCOREBOARD INSTALLATION SPECS.			
DESIGN: SVANHOV	DRAWN: SVANHOV		DATE: 14 MAR 07
SCALE: 1/16" = 1'			
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE
	04	P1538	E-10-A
			298975

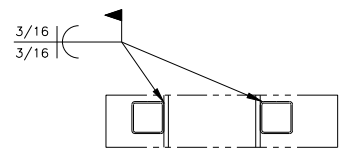
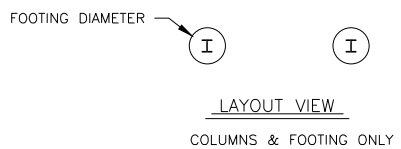
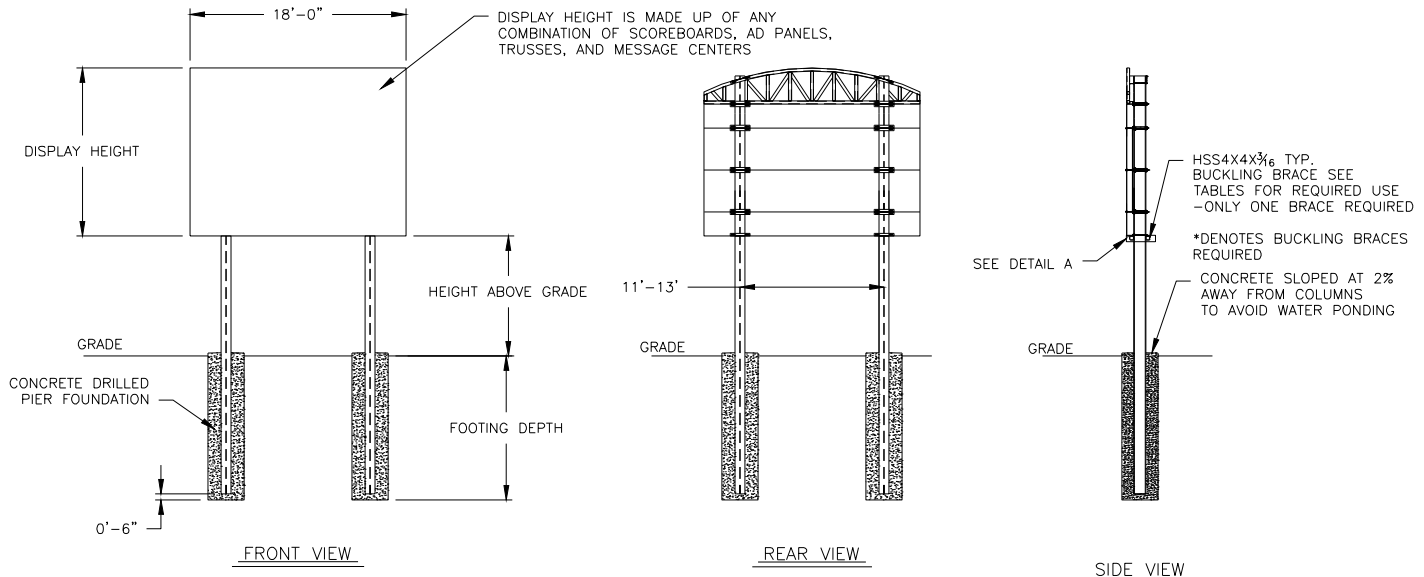


TABLE A - MOUNTING

EXPOSURE B				EXPOSURE C			
HEIGHT ABOVE GRADE = 10'				HEIGHT ABOVE GRADE = 15'			
DISPLAY HEIGHT (FT)	COLUMN FOOTING	DESIGN WIND VELOCITY		DISPLAY HEIGHT (FT)	COLUMN FOOTING	DESIGN WIND VELOCITY	
		90 MPH	110 MPH			90 MPH	110 MPH
8	W8X24 3.0'X7.0'	W8X28 3.0'X8.5'	W10X33 3.0'X9.5'	8	W8X31 3.0'X8.0'	W10X39 3.0'X9.5'	W10X45 3.0'X10.5'
10	W8X28 3.0'X8.0'	W10X33 3.0'X9.0'	W12X40 3.0'X10.5'	10	W10X39 3.0'X9.0'	W10X48 3.0'X10.0'	W12X53 3.0'X11.5'
12	W10X33 3.0'X8.5'	W12X40 3.0'X10.0'	W14X48 3.0'X11.5'	12	W10X45 3.0'X9.5'	W12X53 3.0'X11.0'	W14X61 3.0'X12.5'
14	W10X39 3.0'X9.5'	W14X48 3.0'X11.0'	W12X58 3.0'X12.5'	14	W16X36* 3.0'X10.5'	W14X48* 3.0'X12.0'	W21X55* 3.0'X14.5'
16	W10X45 3.0'X10.0'	W12X53 3.0'X11.5'	W12X65 3.0'X14.0'	16	W16X40 3.0'X11.0'	W21X48* 3.0'X13.0'	W21X62* 3.0'X16.0'
18	W10X39* 3.0'X10.5'	W12X53* 3.0'X12.5'	W14X61* 3.0'X15.5'	18	W12X53* 3.0'X11.5'	W14X61* 3.0'X14.5'	W18X76 3.0'X17.5'

FOOTING DIMENSIONS = DIAMETER X DEPTH
* DENOTES BUCKLING BRACE REQUIRED

NOTES:
1. FOOTING AND COLUMN SIZES ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES. THE DESIGN MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE INSTALLATION BEFORE THEY CAN BE USED FOR FABRICATION OR ERECTION.
2. INTERNATIONAL BUILDING CODE 2006 USED IN DESIGN OF COLUMNS AND FOOTINGS WITH IMPORTANCE FACTOR=1, Kzt=1.0, Kd=0.85, G=0.85. SEISMIC DESIGN WAS NOT CONSIDERED.

3. FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL CLASS 4 (ALLOWABLE LATERAL BEARING PRESSURE OF 150 psf).
4. STRUCTURAL STEEL IS GRADE A992 (50 ksi) STEEL. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 psi.
5. THE AVERAGE DISPLAY WEIGHT FOR A LAYOUT CAN NOT EXCEED 8 PSF.
6. DAKTRONICS INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.
7. REFER TO DAKTRONICS DRAWING 1407-E07B-299257 FOR DETAILS OF DISPLAY MOUNTING TO COLUMNS.

8. LOCAL BUILDING OFFICIALS SHOULD BE CONTACTED TO DETERMINE THE WIND SPEED AND EXPOSURE CATEGORY FOR THE PROPOSED SIGN LOCATION. THE EXPOSURE CATEGORIES B AND C ARE DEFINED AS:
EXPOSURE B - URBAN AND SUBURBAN AREAS, WOODED AREAS, OR OTHER TERRAIN WITH NUMEROUS CLOSELY SPACED OBSTRUCTIONS HAVING THE SIZE OF SINGLE-FAMILY DWELLINGS OR LARGER. THESE CONDITIONS MUST PREVAIL FOR A DISTANCE FROM THE SIGN OF AT LEAST 2,600 FT OR 20 TIMES THE SIGN HEIGHT, WHICHEVER IS GREATER
EXPOSURE C - OPEN TERRAIN WITH SCATTERED OBSTRUCTIONS HAVING HEIGHTS GENERALLY LESS THAN 30 FT. THIS CATEGORY INCLUDES FLAT OPEN COUNTRY, GRASSLANDS, AND ALL WATER SURFACES IN HURRICANE PRONE REGIONS.

9. FOR SPECIFIC PRODUCT DETAILS ON WEIGHT, MOUNTING, ETC. REFER TO THE INDIVIDUAL PRODUCT SPECIFICATION SHEETS.

EXPOSURE B				EXPOSURE C			
HEIGHT ABOVE GRADE = 10'				HEIGHT ABOVE GRADE = 15'			
DISPLAY HEIGHT (FT)	COLUMN FOOTING	DESIGN WIND VELOCITY		DISPLAY HEIGHT (FT)	COLUMN FOOTING	DESIGN WIND VELOCITY	
		90 MPH	110 MPH			90 MPH	110 MPH
8	W8X28 3.0'X8.0'	W10X33 3.0'X9.5'	W12X40 3.0'X10.5'	8	W10X39 3.0'X9.0'	W14X45 3.0'X10.5'	W12X53 3.0'X11.5'
10	W10X33 3.0'X9.0'	W12X40 3.0'X10.5'	W14X49 3.0'X11.5'	10	W10X45 3.0'X10.0'	W12X53 3.0'X11.5'	W14X61 3.0'X12.5'
12	W10X39 3.0'X9.5'	W14X48 3.0'X11.0'	W12X58 3.0'X12.5'	12	W12X53 3.0'X11.0'	W14X61 3.0'X12.5'	W16X45* 3.0'X11.5'
14	W14X48 3.0'X10.5'	W12X58 3.0'X12.5'	W12X65 3.0'X14.0'	14	W16X45* 3.0'X11.5'	W21X55* 3.0'X14.5'	W21X62* 3.0'X16.0'
16	W12X53 3.0'X11.5'	W12X65 3.0'X14.0'	W14X61* 3.0'X15.5'	16	W21X48* 3.0'X13.0'	W21X62* 3.0'X16.0'	W18X76 3.0'X17.5'
18	W12X53* 3.0'X12.0'	W14X61* 3.0'X15.5'		18	W14X61* 3.0'X13.5'	W18X76 3.0'X17.5'	

FOOTING DIMENSIONS = DIAMETER X DEPTH
* DENOTES BUCKLING BRACE REQUIRED

NOTE:
-REFER TO NOTE 8 FOR EXPOSURE CATEGORY DEFINITIONS.

REV 05	DATE: 26 OCT 11	ADDED "ONLY ONE BRACE REQUIRED" NOTE	BY: KDD	<p>DAKTRONICS, INC. BROOKINGS, SD 57006</p>	<p>THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2011 DAKTRONICS, INC.</p>
REV 04	DATE: 10 DEC 08	REMOVED PRODUCT TABLE AND CHANGED DRAWING TO A SIZE	BY: JKU		
REV 03	DATE: 20 NOV 08	CHARTS UPDATED	BY: JRK	<p>DO NOT SCALE DRAWING</p>	
REV 02	DATE: 18 NOV 08	ASYMETRICAL TRUSS REMOVED	BY: JRK	<p>PROJ: OUTDOOR SCOREBOARD INSTALLATION TITLE: 18' WIDTH SCOREBOARD INSTALLATION SPECS.</p>	
REV 01	DATE: 13 NOV 08	BRACED COLUMN SIZED ADDED MODEL NUMBERS CHANGED CROWNED TRUSS REMOVED	BY: JRK	<p>DESIGN: SVANHOV SCALE: 1/16" = 1'</p>	<p>DRAWN: SVANHOV DATE: 14 MAR 07</p>
			SHEET	REV	JOB NO:
			05	P1538	FUNC-TYPE-SIZE
					E-10-A
			302416		

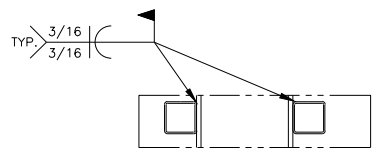
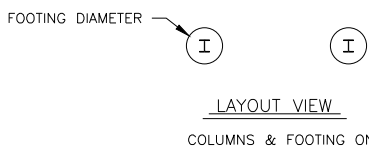
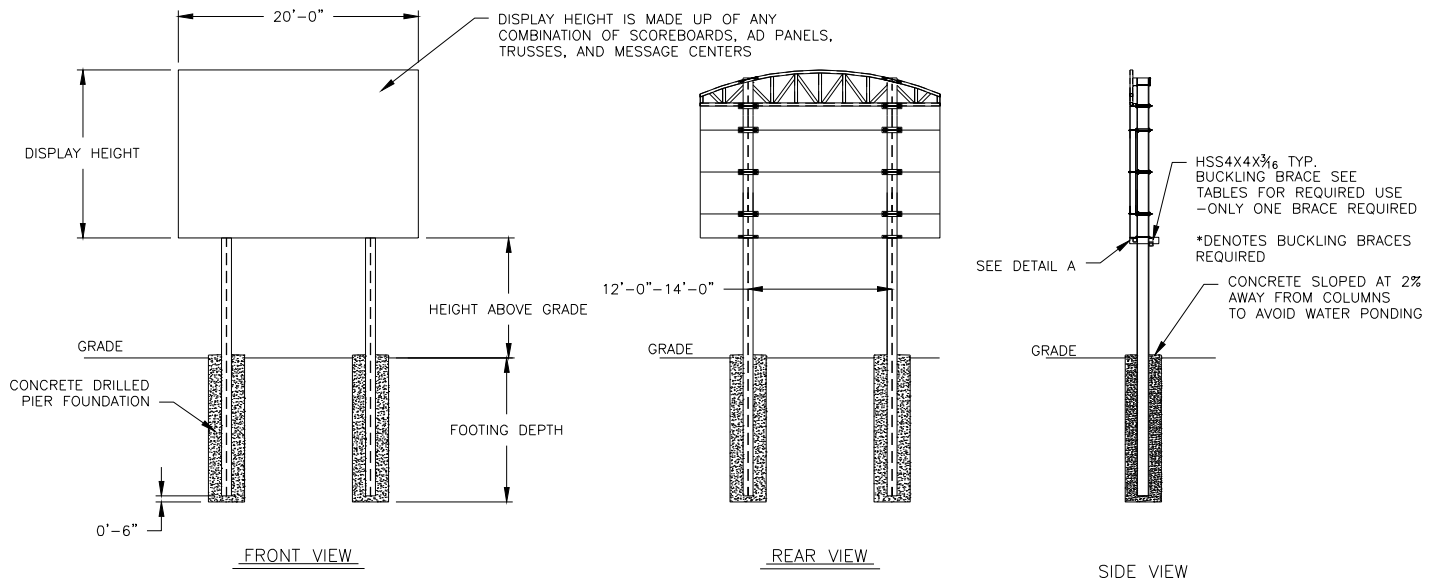


TABLE A - MOUNTING

EXPOSURE B				EXPOSURE C					
HEIGHT ABOVE GRADE = 10'				HEIGHT ABOVE GRADE = 15'					
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY		DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY			
		90 MPH	110 MPH			90 MPH	110 MPH		
8	COLUMN FOOTING	W8X24 3.0'X7.5'	W12X30 3.0'X8.5'	W16X36 3.0'X10.0'	8	COLUMN FOOTING	W10X33 3.0'X8.5'	W12X40 3.0'X9.5'	W14X48 3.0'X11.0'
10	COLUMN FOOTING	W8X31 3.0'X8.5'	W14X38 3.0'X9.5'	W14X43 3.0'X11.0'	10	COLUMN FOOTING	W10X39 3.0'X9.0'	W10X49 3.0'X10.5'	W12X58 3.0'X12.0'
12	COLUMN FOOTING	W8X35 3.0'X9.0'	W14X43 3.0'X10.5'	W12X53 3.0'X12.0'	12	COLUMN FOOTING	W10X49 3.0'X10.0'	W12X58 3.0'X11.5'	W12X65 3.0'X13.5'
14	COLUMN FOOTING	W14X43 3.0'X10.0'	W12X53 3.0'X11.5'	W14X61 3.0'X13.0'	14	COLUMN FOOTING	W10X49* 3.0'X10.5'	W21X48* 3.0'X12.5'	W21X62* 3.0'X15.5'
16	COLUMN FOOTING	W10X49 3.0'X10.5'	W12X58 3.0'X12.0'	W16X67 3.0'X15.0'	16	COLUMN FOOTING	W10X49* 3.0'X11.5'	W21X55* 3.0'X14.0'	W16X67* 3.0'X17.0'
18	COLUMN FOOTING	W10X45* 3.0'X11.0'	W12X53* 3.0'X13.5'	W16X67* 3.0'X16.5'	18	COLUMN FOOTING	W12X53* 3.0'X12.0'	W16X67* 3.0'X15.5'	W18X76* 3.0'X18.5'
20	COLUMN FOOTING	W10X49* 3.0'X12.0'	W14X61* 3.0'X14.5'	W18X76* 3.0'X18.0'	20	COLUMN FOOTING	W12X58* 3.0'X13.0'	W16X67* 3.0'X16.5'	W18X86* 3.0'X20.5'

FOOTING DIMENSIONS = DIAMETER X DEPTH
 * DENOTES BUCKLING BRACE REQUIRED

EXPOSURE B				EXPOSURE C			
HEIGHT ABOVE GRADE = 10'				HEIGHT ABOVE GRADE = 15'			
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY		DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY	
		90 MPH	110 MPH			90 MPH	110 MPH
8	COLUMN FOOTING	W12X30 3.0'X8.5'	W14X38 3.0'X10.0'	8	COLUMN FOOTING	W10X39 3.0'X9.5'	W10X49 3.0'X11.0'
10	COLUMN FOOTING	W14X38 3.0'X9.5'	W14X43 3.0'X11.0'	10	COLUMN FOOTING	W14X48 3.0'X10.5'	W12X58 3.0'X12.0'
12	COLUMN FOOTING	W14X43 3.0'X10.5'	W12X53 3.0'X12.0'	12	COLUMN FOOTING	W12X53 3.0'X11.5'	W16X67 3.0'X13.5'
14	COLUMN FOOTING	W10X49 3.0'X11.0'	W14X61 3.0'X13.5'	14	COLUMN FOOTING	W18X50* 3.0'X12.0'	W21X62* 3.0'X15.5'
16	COLUMN FOOTING	W12X58 3.0'X12.0'	W16X67 3.0'X15.0'	16	COLUMN FOOTING	W18X55* 3.0'X13.5'	W16X67* 3.0'X17.0'
18	COLUMN FOOTING	W12X53* 3.0'X13.0'	W16X67* 3.0'X16.5'	18	COLUMN FOOTING	W14X61* 3.0'X14.5'	W18X76* 3.0'X18.5'
20	COLUMN FOOTING	W12X58* 3.0'X14.0'	W16X67* 3.0'X18.0'	20	COLUMN FOOTING	W16X67* 3.0'X16.0'	W18X86* 3.0'X20.5'

FOOTING DIMENSIONS = DIAMETER X DEPTH
 * DENOTES BUCKLING BRACE REQUIRED

NOTE:
 -REFER TO NOTE 8 FOR EXPOSURE CATEGORY DEFINITIONS.

NOTES:

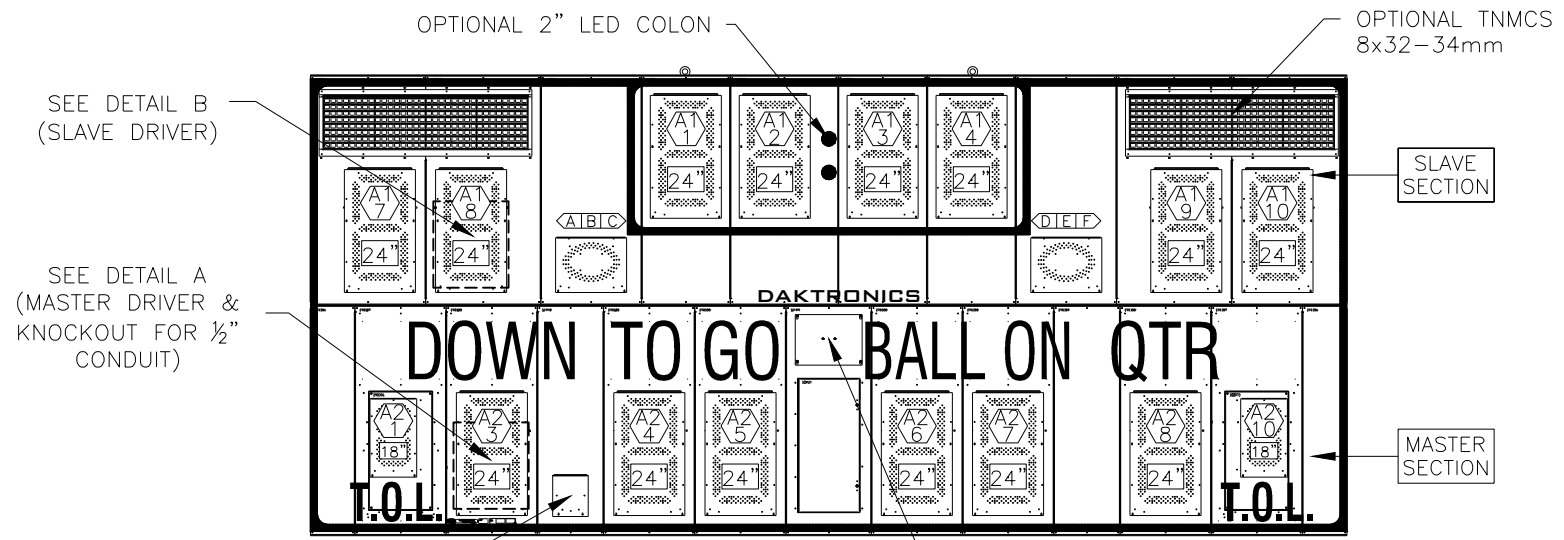
- FOOTING AND COLUMN SIZES ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES. THE DESIGN MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE INSTALLATION BEFORE THEY CAN BE USED FOR FABRICATION OR ERECTION.
- INTERNATIONAL BUILDING CODE 2006 USED IN DESIGN OF COLUMNS AND FOOTINGS WITH IMPORTANCE FACTOR=1, Kzt=1.0, Kd=0.85, G=0.85. SEISMIC DESIGN WAS NOT CONSIDERED.
- FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL CLASS 4 (ALLOWABLE LATERAL BEARING PRESSURE OF 150 psf).
- STRUCTURAL STEEL IS GRADE A992 (50 ksi) STEEL. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 psi.
- THE AVERAGE DISPLAY WEIGHT FOR A LAYOUT CAN NOT EXCEED 8 PSF.
- DAKTRONICS INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.
- REFER TO DAKTRONICS DRAWING 1407-E07B-299257 FOR DETAILS OF DISPLAY MOUNTING TO COLUMNS.
- LOCAL BUILDING OFFICIALS SHOULD BE CONTACTED TO DETERMINE THE WIND SPEED AND EXPOSURE CATEGORY FOR THE PROPOSED SIGN LOCATION. THE EXPOSURE CATEGORIES B AND C ARE DEFINED AS:
 EXPOSURE B - URBAN AND SUBURBAN AREAS, WOODED AREAS, OR OTHER TERRAIN WITH NUMEROUS CLOSELY SPACED OBSTRUCTIONS HAVING THE SIZE OF SINGLE-FAMILY DWELLINGS OR LARGER. THESE CONDITIONS MUST PREVAIL FOR A DISTANCE FROM THE SIGN OF AT LEAST 2,600 FT OR 20 TIMES THE SIGN HEIGHT, WHICHEVER IS GREATER
 EXPOSURE C - OPEN TERRAIN WITH SCATTERED OBSTRUCTIONS HAVING HEIGHTS GENERALLY LESS THAN 30 FT. THIS CATEGORY INCLUDES FLAT OPEN COUNTRY, GRASSLANDS, AND ALL WATER SURFACES IN HURRICANE PRONE REGIONS.
- FOR SPECIFIC PRODUCT DETAILS ON WEIGHT, MOUNTING, ETC. REFER TO THE INDIVIDUAL PRODUCT SPECIFICATION SHEETS.

 BROOKINGS, SD 57006 DO NOT SCALE DRAWING	THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2011 DAKTRONICS, INC.	
	PROJ.: OUTDOOR SCOREBOARD INSTALLATION TITLE: 20' WIDTH SCOREBOARD INSTALLATION SPECS.	
	DESIGN: SVANHOV SCALE: 1/16" = 1'	DRAWN: SVANHOV DATE: 30 APR 07
SHEET: 03 REV: P1538	JOB NO: E-10-A FUNC-TYPE-SIZE: 303616	DATE: 30 APR 07

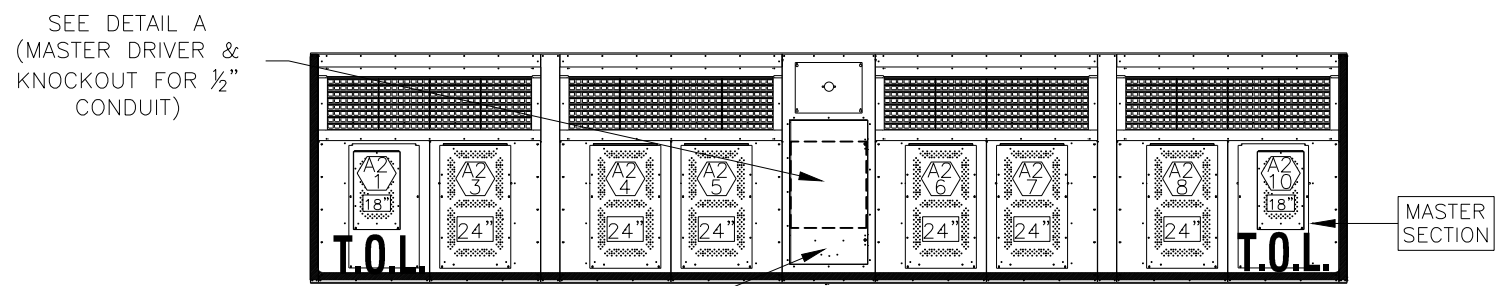
REV	DATE	DESCRIPTION	BY
03	26 OCT 11	ADDED "ONLY ONE BRACE REQUIRED" NOTE	KDD
02	10 DEC 08	REMOVED PRODUCT TABLE AND CHANGED DRAWING TO A SIZE	JKU
01	11 NOV 08	UPDATED CHARTS	JDB

REV 01 DATE: 11 MAR 11
 ADDED ELECTRONIC CAPTIONS LAYOUT
 BY: KDD

FB-2018-11/-21, G4



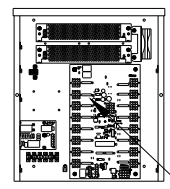
FRONT VIEW
 BTM SHOWN WITH VINYL CAPTIONS



FRONT VIEW
 BTM SHOWN WITH 8x42-34mm ELECTRONIC CAPTIONS

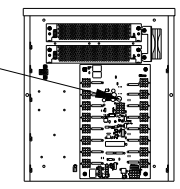
NOTES:

- = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
- = DIGIT SIZE
- = SEGMENT DESIGNATIONS



DETAIL: A
 x2 SCALE

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



DETAIL: B
 x2 SCALE

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

PROJ: OUTDOOR LED SCOREBOARDS
 TITLE: COMPONENT LOCATION: FB-2018-11/-21 - G4
 DESIGN: BCURTIS
 DRAWN: BCURTIS
 SCALE: 1=40
 SHEET 01 REV P1407
 JOB NO: R-08-A
 DATE: 29 MAY 07
 FUNC-TYPE-SIZE: 305748

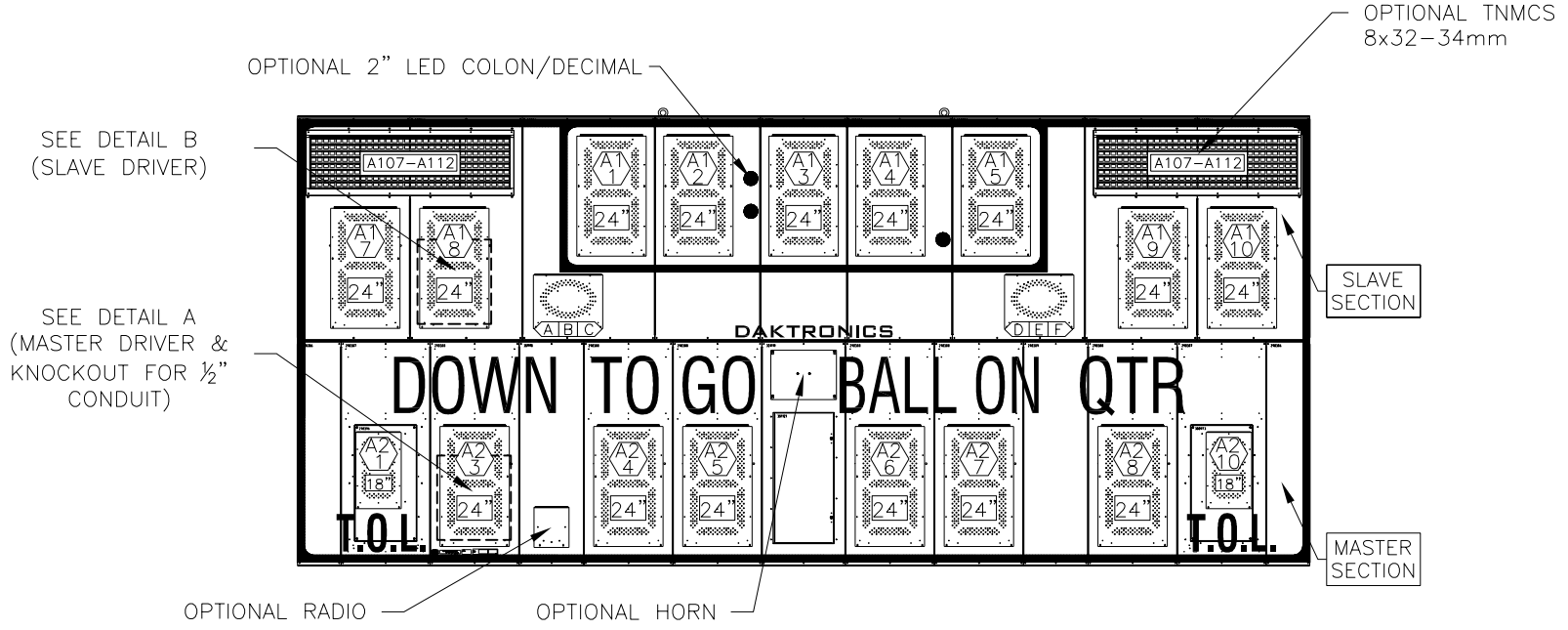
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REV. DATE DESCRIPTION BY APPR.

PROJ.: OUTDOOR LED SCOREBOARDS
 TITLE: COMPONENT LOCATION: FB-2019-11/-21, G4
 DES. BY: BCURTIS DRAWN BY: BCURTIS DATE: 29 MAY 07
 REVISION 00 SCALE: 1=40
 1407-R08A-305749

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FB-2019-11/-21, G4



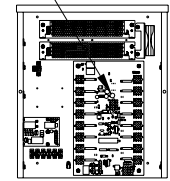
FRONT VIEW

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

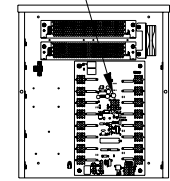
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

- = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
- = DIGIT SIZE
- = SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE

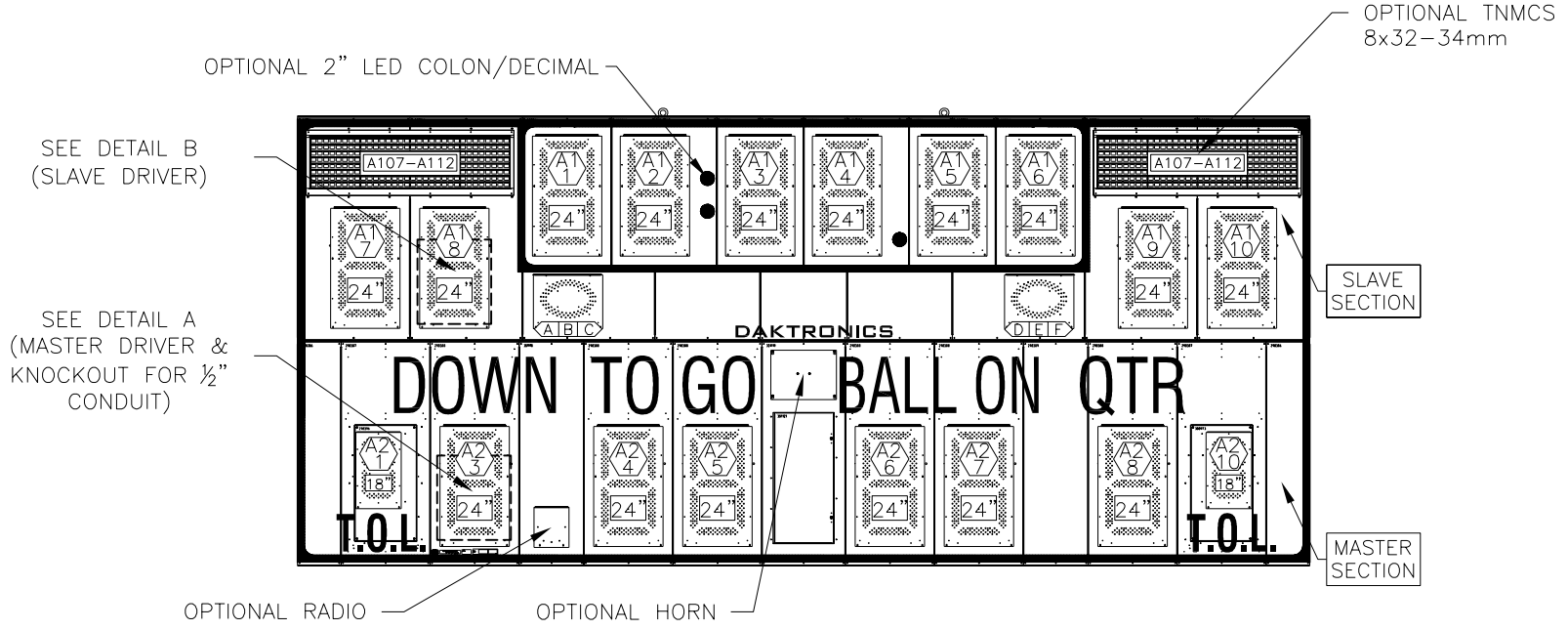


DETAIL: B
x2 SCALE

REV. DATE DESCRIPTION BY APPR.

00
 REVISION APPR. BY: SCALE: 1=40
 1407-R08A-305750
 PROJ.: OUTDOOR LED SCOREBOARDS
 TITLE: COMPONENT LOCATION: FB-2020-11/-21, G4
 DES. BY: BCURTIS DRAWN BY: BCURTIS DATE: 29 MAY 07
 DAKTRONICS, INC. BROOKINGS, SD 57006
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FB-2020-11/-21, G4






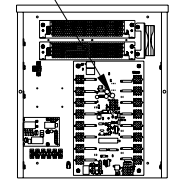
FRONT VIEW

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

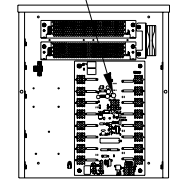
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

-  = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
-  = DIGIT SIZE
-  = SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

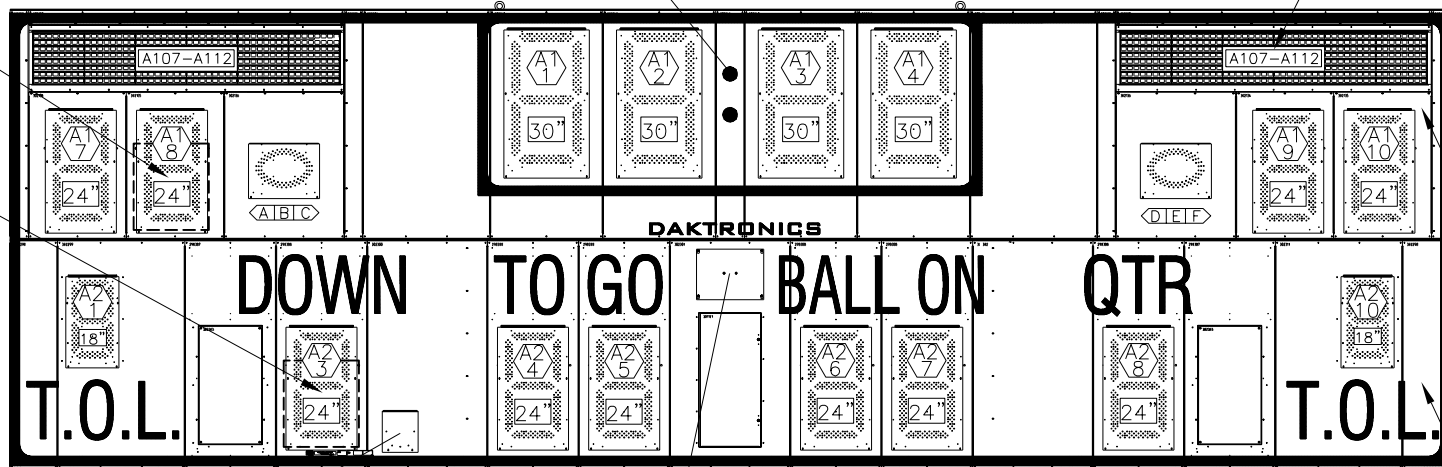
FB-2021-11/-21, G4

OPTIONAL 2" LED COLON

OPTIONAL TNMCS
8x48-34mm

SEE DETAIL B
(SLAVE DRIVER)

SEE DETAIL A
(MASTER DRIVER &
KNOCKOUT FOR 1/2"
CONDUIT)



SLAVE SECTION

MASTER SECTION

OPTIONAL RADIO

OPTIONAL HORN

FRONT VIEW

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

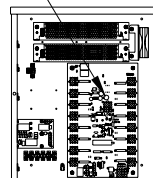
ENCLOSED 16 COLUMN SLAVE LED DRIVER
AND POWER/SIGNAL ENCLOSURE @1. (THE
COVER HAS BEEN REMOVED TO SHOW THE
ENCLOSURE COMPONENT DETAIL.)

NOTES:

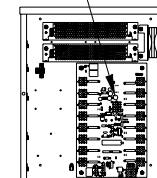
= LED DRIVER NUMBER &
LED DRIVER CONNECTOR
WIRED TO THAT DIGIT.

= DIGIT SIZE

= SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE



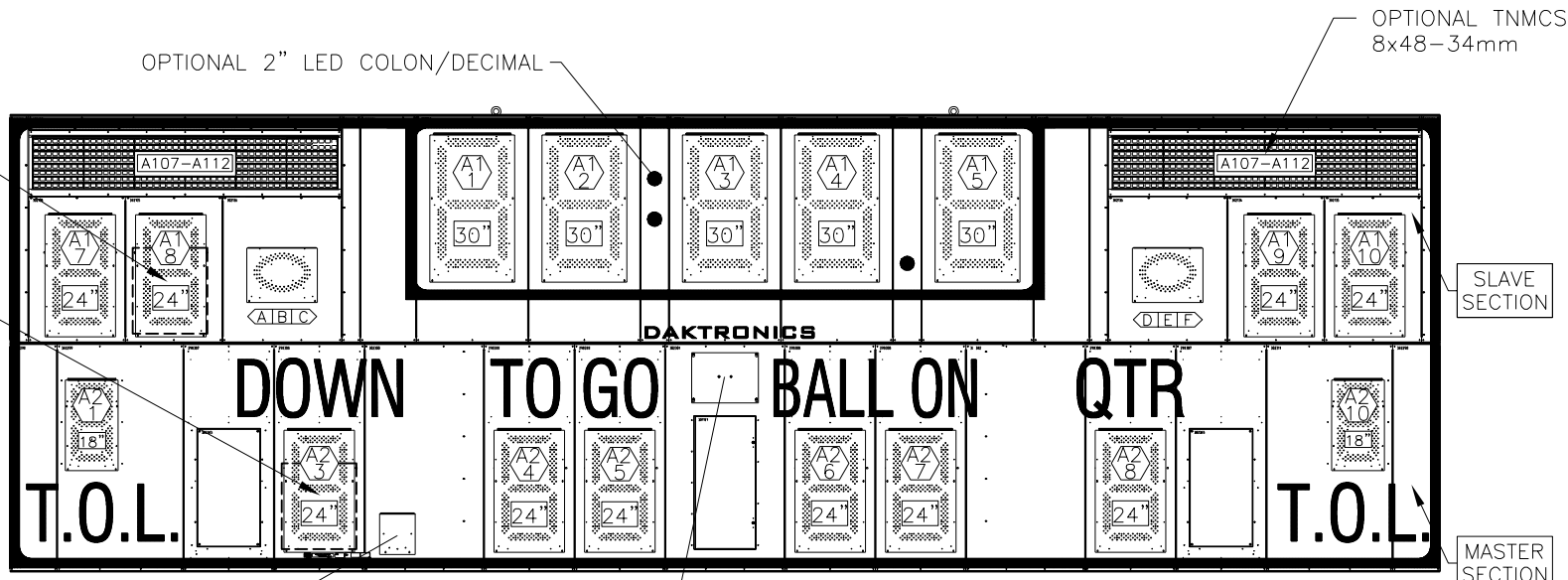
DETAIL: B
x2 SCALE

REV.	01
DATE	22 JUL 08
DESCRIPTION	CHANGED TNMCS TO 34mm
BY	BEE
APPR.	

REVISION	01
APPR. BY:	
SCALE:	1=40
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DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ.: OUTDOOR LED SCOREBOARDS	
TITLE: COMPONENT LOCATION: FB-2021-11/-21 - G4	
DES. BY: BCURTIS	DRAWN BY: BCURTIS
DATE: 30 MAY 07	
1407-R08A-305751	

FB-2022-11/-21, G4

REV.	01
DATE	22 JUL 08
DESCRIPTION	CHANGED TNMC TO 34mm
BY	BEE
APPR.	



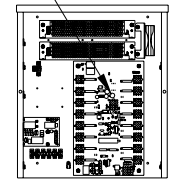
FRONT VIEW

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

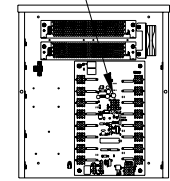
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

- = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
- = DIGIT SIZE
- = SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

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PROJ: OUTDOOR LED SCOREBOARDS
 TITLE: COMPONENT LOCATION: FB-2022-11/-21 - G4
 DES. BY: BCURTIS DRAWN BY: BCURTIS DATE: 30 MAY 07
 REVISION 01 APPR. BY: 1407-R08A-305752
 SCALE: 1=40

DAKTRONICS, INC. BROOKINGS, SD 57006

SEE DETAIL B (SLAVE DRIVER)
 SEE DETAIL A (MASTER DRIVER & KNOCKOUT FOR 1/2" CONDUIT)

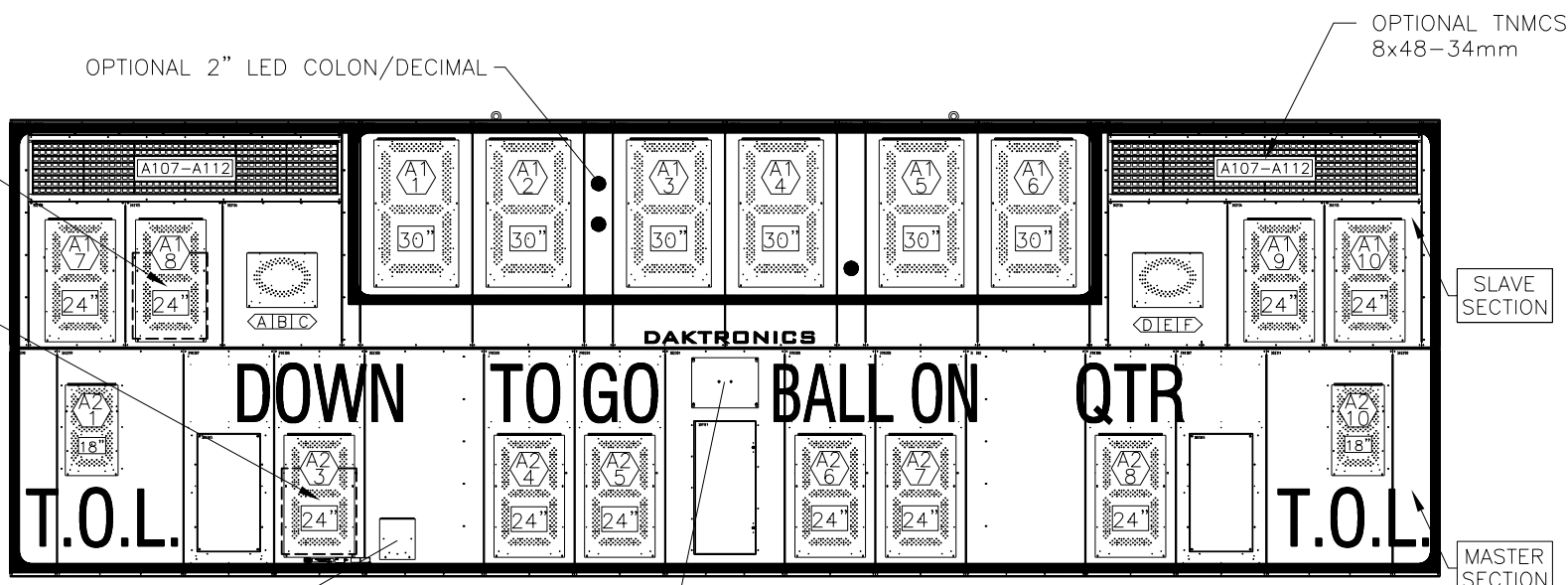
FB-2023-11/-21, G4

REV.	01
DATE	22 JUL 08
DESCRIPTION	CHANGED TNMC TO 34mm
BY	BEE
APPR.	

REVISION	01
APPR. BY:	
SCALE:	1=40
1407-R08A-305753	

SEE DETAIL B (SLAVE DRIVER)

SEE DETAIL A (MASTER DRIVER & KNOCKOUT FOR 1/2" CONDUIT)



OPTIONAL RADIO

OPTIONAL HORN

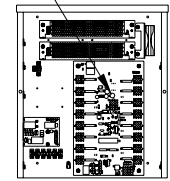
FRONT VIEW

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

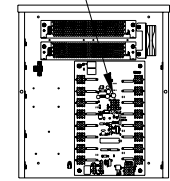
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

- = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
- = DIGIT SIZE
- = SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: COMPONENT LOCATION: FB-2023-11/-21 - G4

DES. BY: BCURTIS DRAWN BY: BCURTIS DATE: 30 MAY 07

DAKTRONICS, INC. BROOKINGS, SD 57006

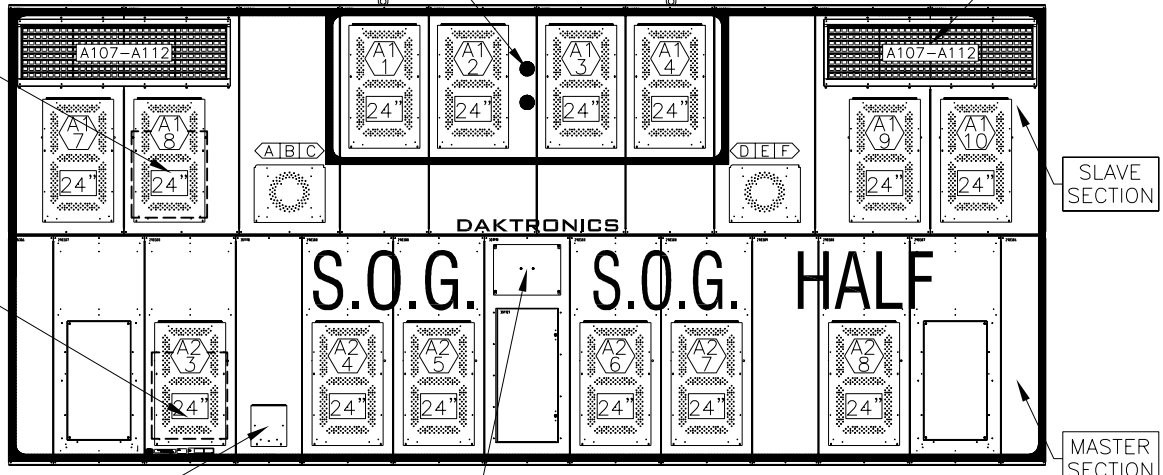
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REV.	DATE	DESCRIPTION	BY	APPR.

SO-2018-11/-21, G4

SEE DETAIL B
(SLAVE DRIVER)

SEE DETAIL A
(MASTER DRIVER &
KNOCKOUT FOR 1/2"
CONDUIT)



FRONT VIEW

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

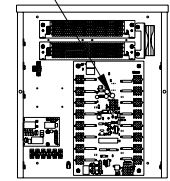
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

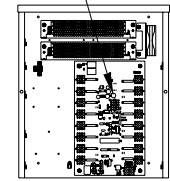
= LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.

= DIGIT SIZE

= SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

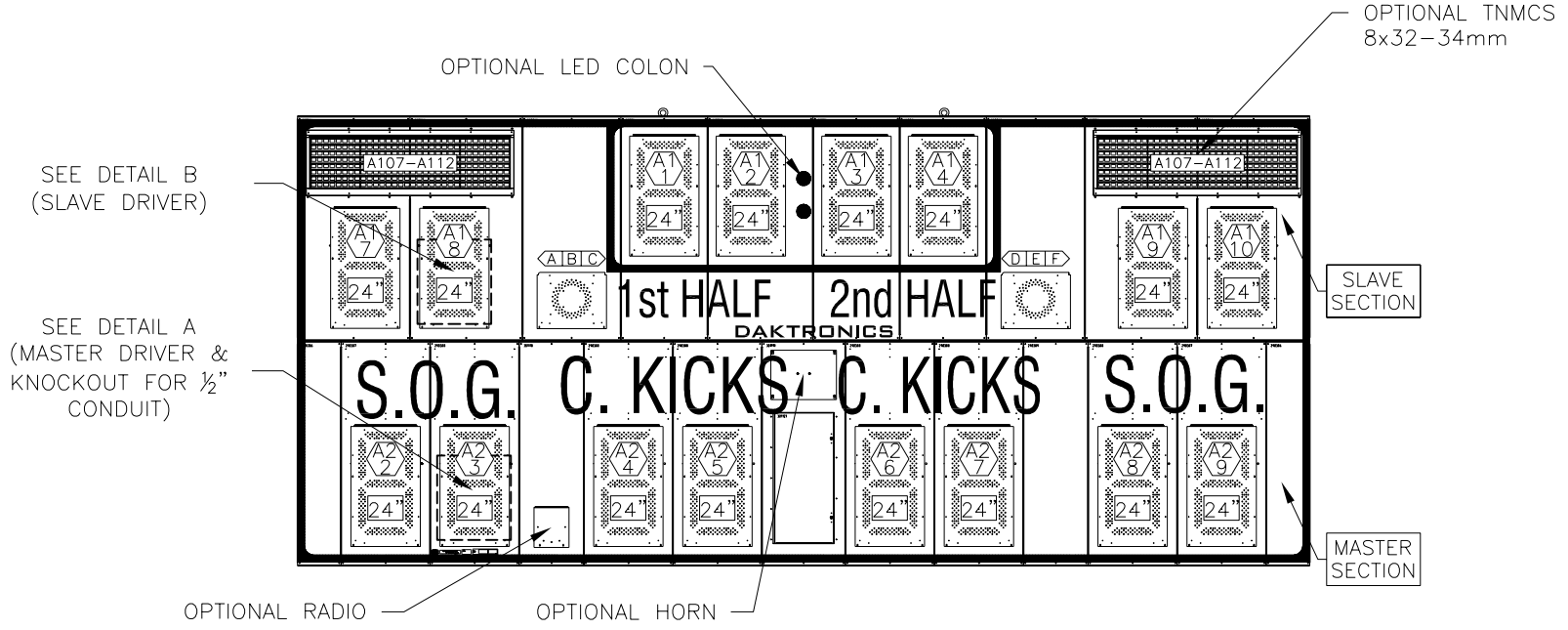
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PROJ: OUTDOOR LED SCOREBOARDS
 TITLE: COMPONENT LOCATION: SO-2018-11/-21, G4
 DES. BY: BCURTIS DRAWN BY: JDERANIL DATE: 30 MAY 07
 DAKTRONICS, INC. BROOKINGS, SD 57006

REVISION 00
 APPR. BY: 1407-R08A-305800
 SCALE: 1=40

REV.	DATE	DESCRIPTION	BY	APPR.

SO-2019-11/-21, G4






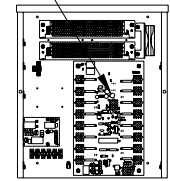
FRONT VIEW

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

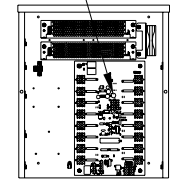
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

-  = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
-  = DIGIT SIZE
-  = SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

PROJ: OUTDOOR LED SCOREBOARDS
 TITLE: COMPONENT LOCATION: SO-2019-11/-21, G4
 DES. BY: BCURTIS DRAWN BY: JDERANIL DATE: 30 MAY 07
 DAKTRONICS, INC. BROOKINGS, SD 57006
 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 2007 DAKTRONICS, INC.
 REVISION 00
 APPR. BY: 1407-R08A-305803
 SCALE: 1=40

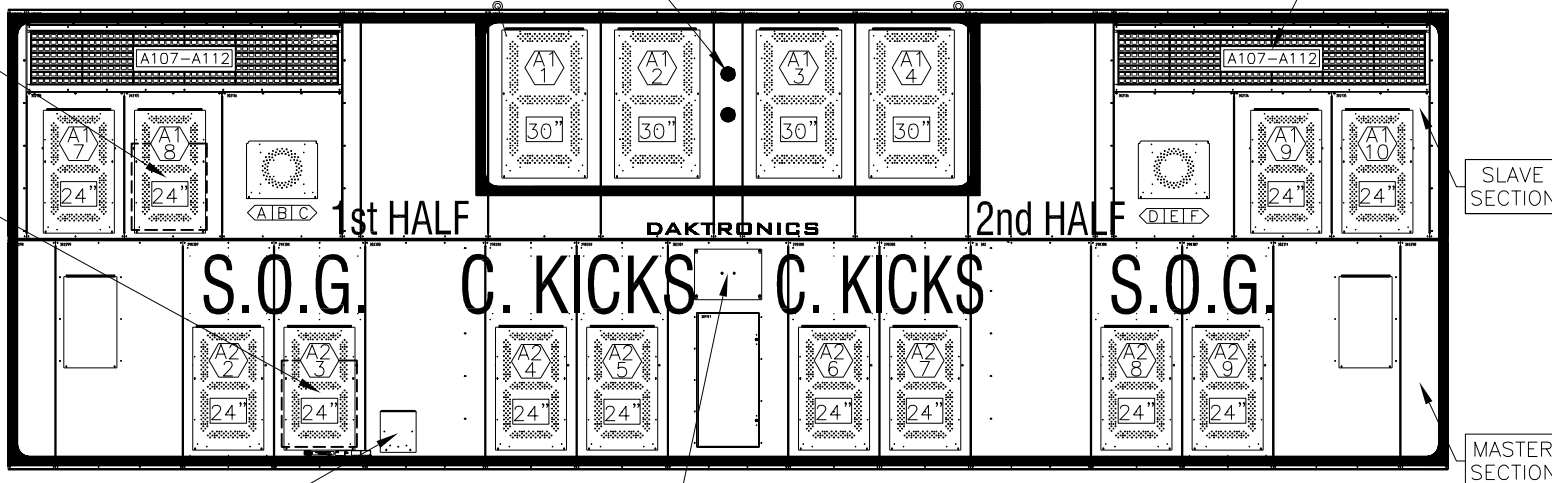
SO-2021-11/-21, G4

OPTIONAL 2" LED COLON

OPTIONAL TNMCS
8x48-34mm

SEE DETAIL B
(SLAVE DRIVER)

SEE DETAIL A
(MASTER DRIVER &
KNOCKOUT FOR 1/2"
CONDUIT)



S.O.G.

C. KICKS

C. KICKS

S.O.G.

OPTIONAL RADIO

OPTIONAL HORN

FRONT VIEW

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

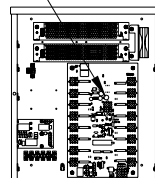
ENCLOSED 16 COLUMN SLAVE LED DRIVER
AND POWER/SIGNAL ENCLOSURE @1. (THE
COVER HAS BEEN REMOVED TO SHOW THE
ENCLOSURE COMPONENT DETAIL.)

NOTES:

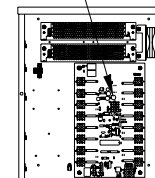
= LED DRIVER NUMBER &
LED DRIVER CONNECTOR
WIRED TO THAT DIGIT.

= DIGIT SIZE

= SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE

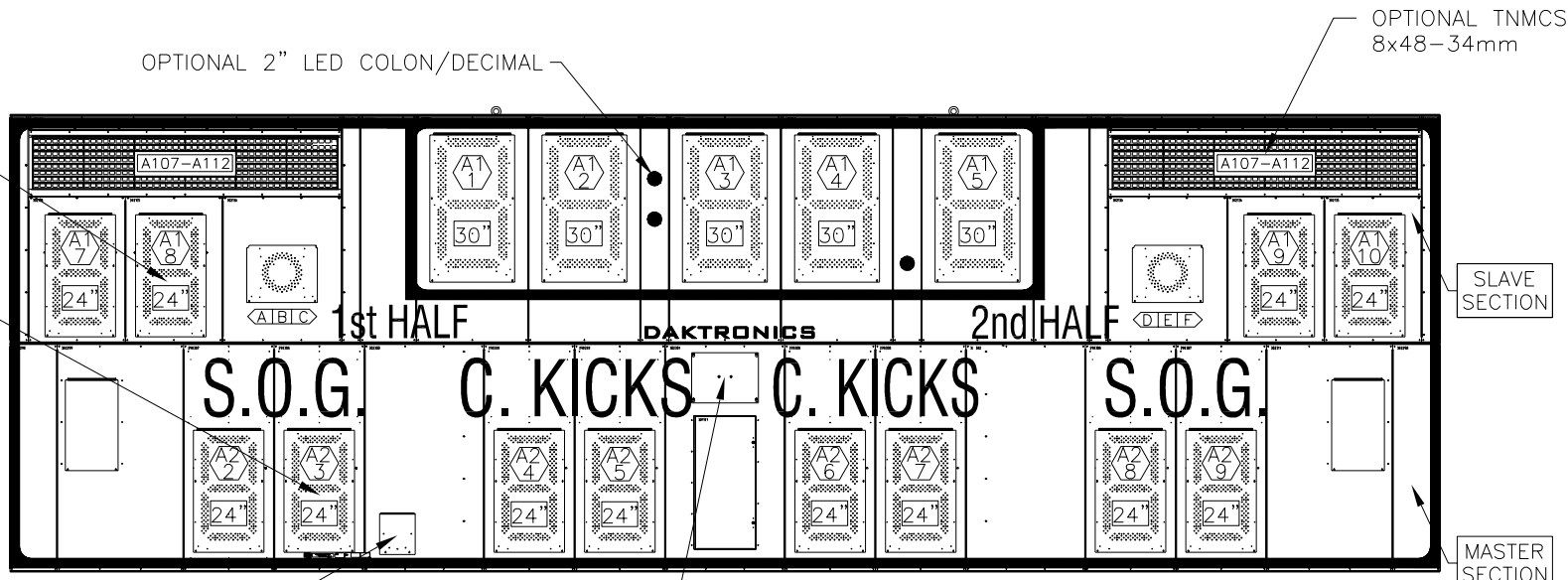


DETAIL: B
x2 SCALE

REV.	01
DATE	24 JUN 07
DESCRIPTION	REVISED TNMCS SPEC TO CALL OUT 34mm
BY	JDD
APPR.	

REVISION	01
APPR. BY:	JDERANIL
SCALE:	1=40
PROJ.: OUTDOOR LED SCOREBOARDS TITLE: COMPONENT LOCATION; SO-2021-11/-21, G4 DES. BY: BCURTIS DRAWN BY: JDERANIL DATE: 30 MAY 07 DAKTRONICS, INC. BROOKINGS, SD 57006 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 2007 DAKTRONICS, INC.	
1407-R08A-305804	

SO-2022-11/-21, G4



OPTIONAL RADIO

OPTIONAL HORN

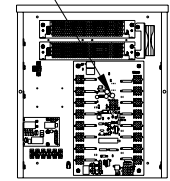
FRONT VIEW

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

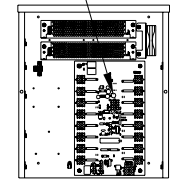
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

- = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
- = DIGIT SIZE
- = SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

REV.	01
DATE	24 JUN 07
DESCRIPTION	REVISED TNMC SPEC TO CALL OUT 34mm
BY	JDD
APPR.	

REVISION	01
APPR. BY:	JDERANIL
SCALE:	1=40
PROJ: OUTDOOR LED SCOREBOARDS TITLE: COMPONENT LOCATION: SO-2022-11/-21, G4 DES. BY: BCURTIS DRAWN BY: JDERANIL DATE: 30 MAY 07 DAKTRONICS, INC. BROOKINGS, SD 57006 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 2007 DAKTRONICS, INC.	
1407-R08A-305807	

SEE DETAIL B (SLAVE DRIVER)

SEE DETAIL A (MASTER DRIVER & KNOCKOUT FOR 1/2" CONDUIT)

OPTIONAL TNMCS
8x48-34mm

SLAVE SECTION

MASTER SECTION

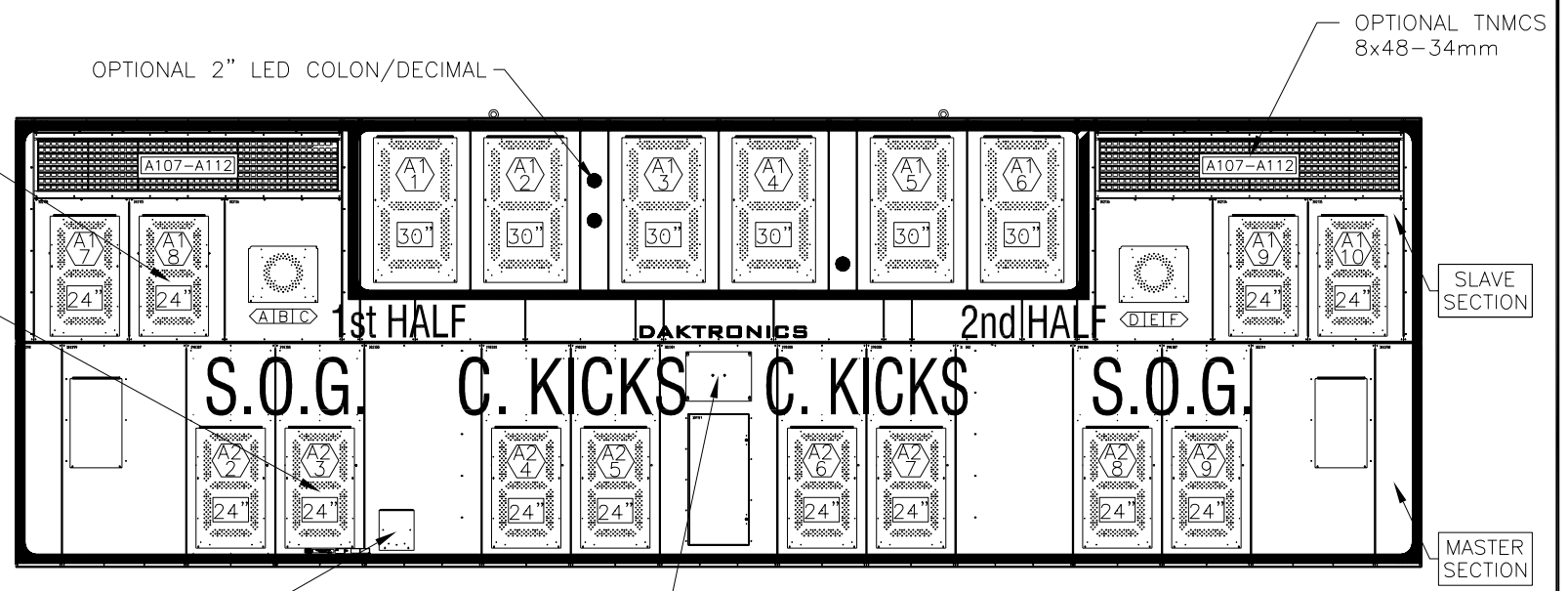
SO-2023-11/-21, G4

REV.	01
DATE	24 JUN 07
DESCRIPTION	REVISED TNMC SPEC TO CALL OUT 34mm
BY	JDD
APPR.	

REVISION	01
APPR. BY:	
SCALE:	1=40
1407-R08A-305808	

SEE DETAIL B (SLAVE DRIVER)

SEE DETAIL A (MASTER DRIVER & KNOCKOUT FOR 1/2" CONDUIT)



OPTIONAL RADIO

OPTIONAL HORN

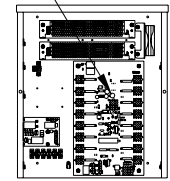
FRONT VIEW

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

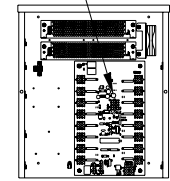
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

- = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
- = DIGIT SIZE
- = SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

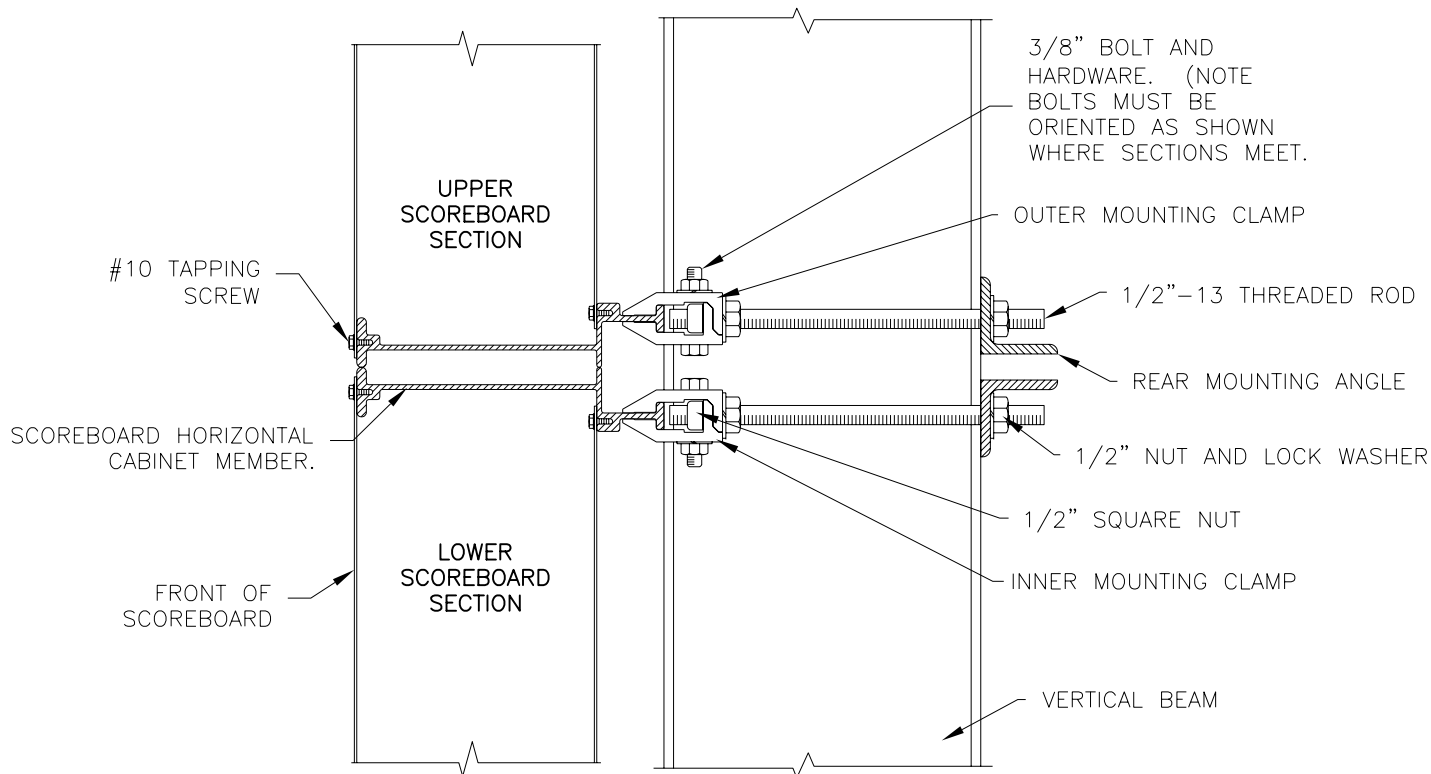
THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2007 DAKTRONICS, INC.

PROJ: OUTDOOR LED SCOREBOARDS

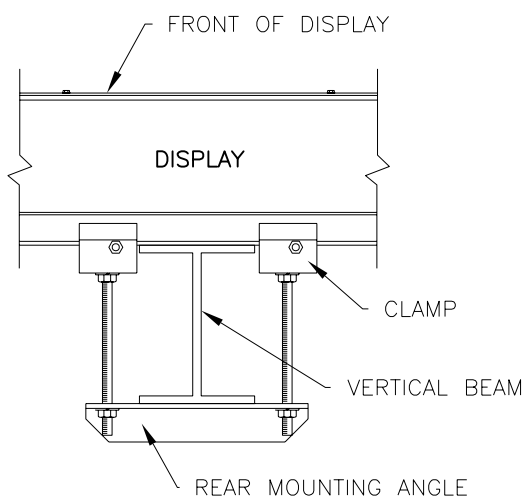
TITLE: COMPONENT LOCATION; SO-2023-11/-21, G4

DES. BY: BCURTIS DRAWN BY: JDERAIL DATE: 30 MAY 07

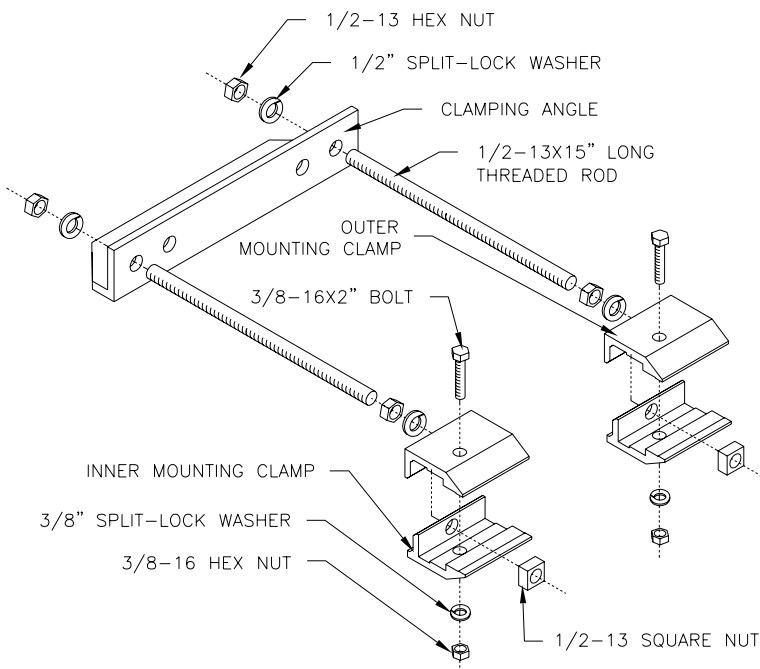
DAKTRONICS, INC. BROOKINGS, SD 57006



SIDE VIEW



TOP VIEW
NOT TO SCALE



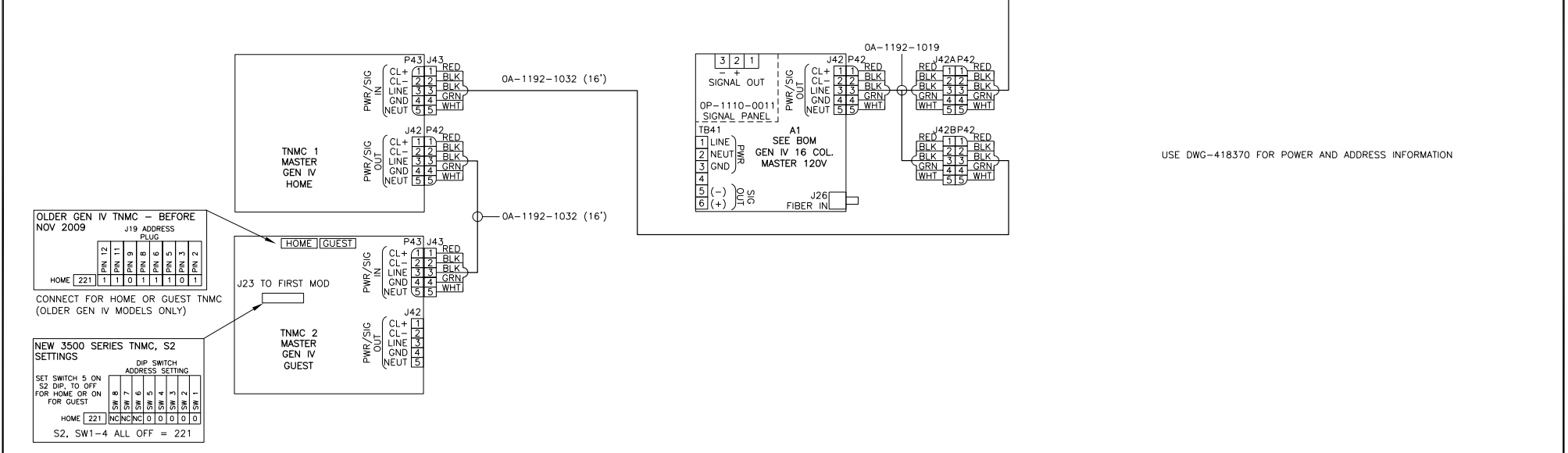
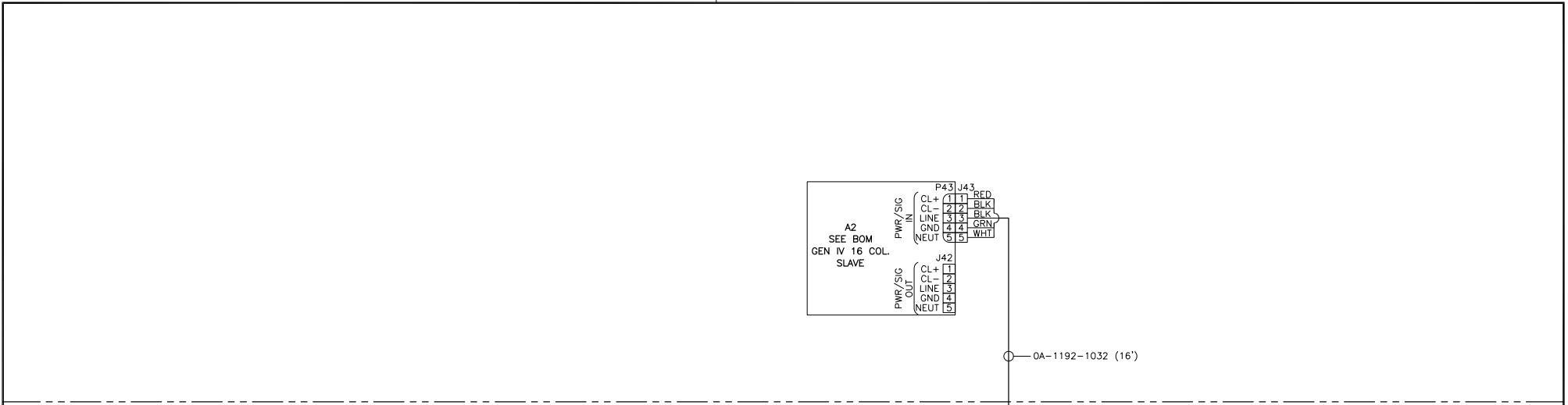
MOUNTING HARDWARE DETAIL
NOT TO SCALE

NOTES:

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

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DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR LED SCOREBOARDS			
TITLE: DISPLAY MOUNTING; OUTDOOR SPORTS EXTRUSION			
DES. BY: BCURTIS		DRAWN BY: BCURTIS	DATE: 07 JUN 07
REVISION	APPR. BY:	1407-R10A-308051	
00	SCALE: 1=5		

REV.	DATE	DESCRIPTION	BY	APPR.



USE DWG-418370 FOR POWER AND ADDRESS INFORMATION

OLDER GEN IV TNMC - BEFORE NOV 2009

J19 ADDRESS PLUG

PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2	
HOME 221	1	1	0	1	1	1	0	1

CONNECT FOR HOME OR GUEST TNMC (OLDER GEN IV MODELS ONLY)

NEW 3500 SERIES TNMC, S2 SETTINGS

DIP SWITCH ADDRESS SETTING

SET SWITCH 5 ON S2 DIP TO OFF FOR HOME OR ON FOR GUEST

SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
HOME 221	NC	NC	NC	0	0	0	0

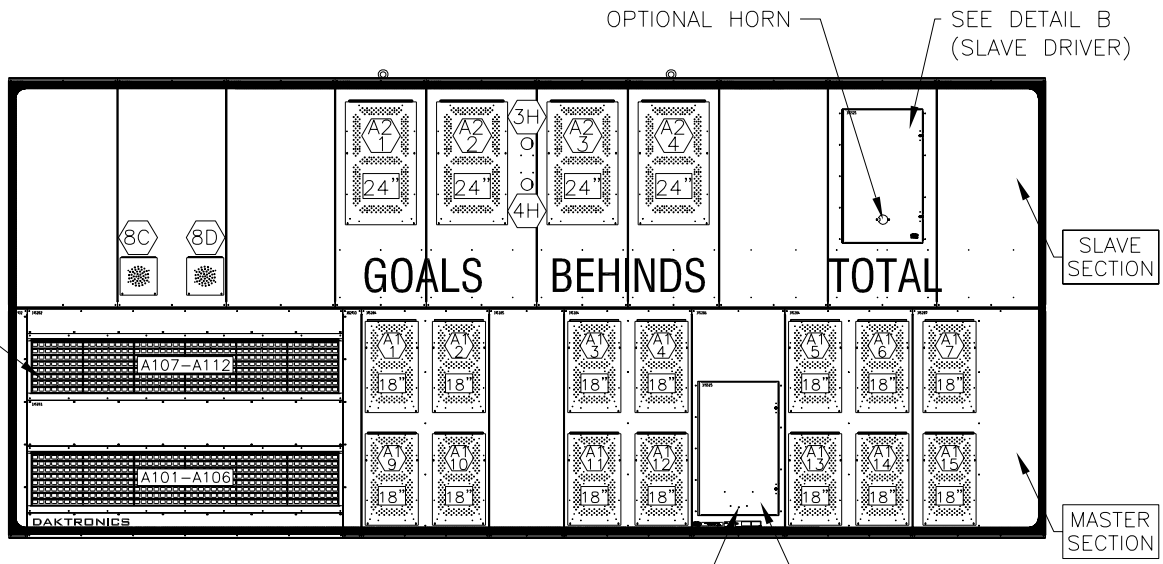
S2, SW1-4 ALL OFF = 221

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03	21 DEC 09	REMOVED DIP SWITCH SETTING DIAGRAMS AND ADDRESSING INFORMATION ON DRIVERS.	EJS	
02	20 NOV 09	UPDATED TNMCS TO NEWER STYLE	EJS	
01	29 SEP 09	UPDATED TNMC BLOCK	KZB	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	OUTDOOR SCOREBOARDS
TITLE:	SCHEMATIC: FB-3010 GEN IV SCBD
DES. BY:	DRAWN BY: KBIERBA DATE: 03 AUG 07
REVISION	APPR. BY: MMILLER
03	SCALE: 1407-R01B-315137

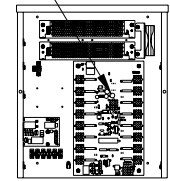
FB-3010-11/-21, G4



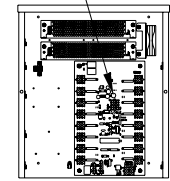
FRONT VIEW

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. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)





DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

NOTES:

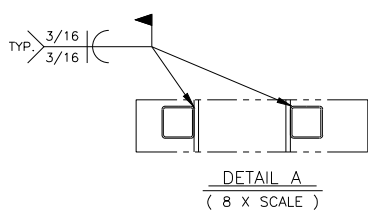
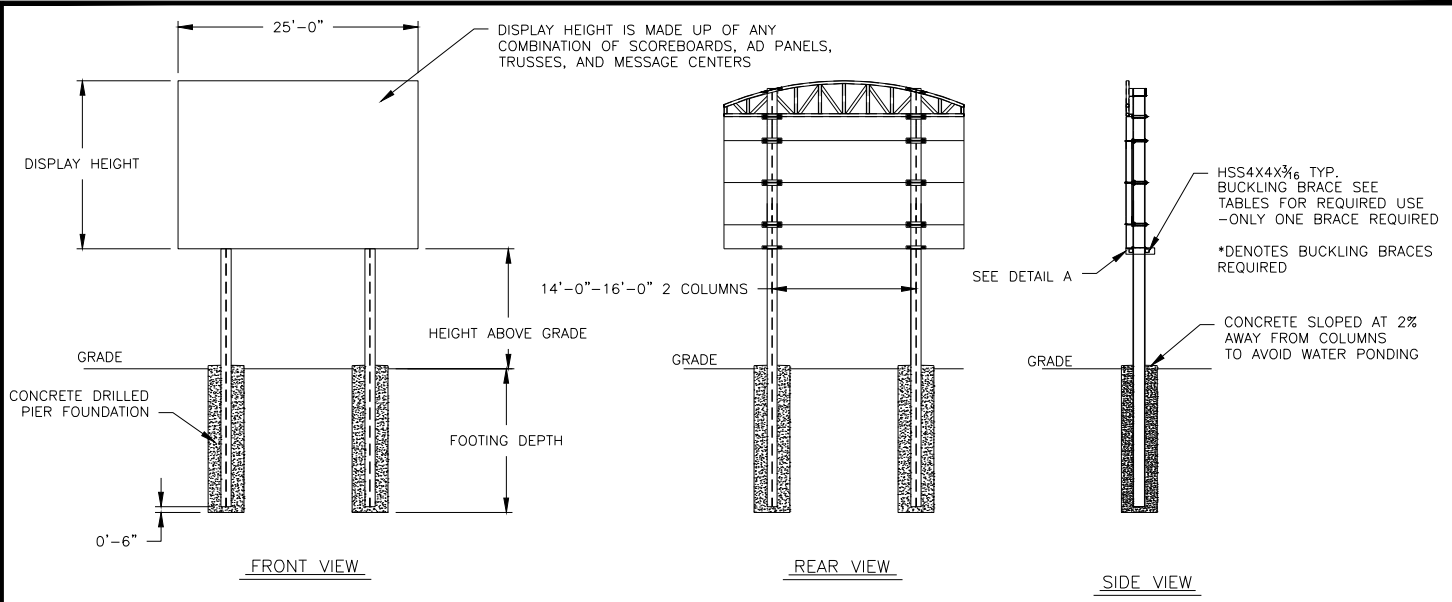
-  = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
-  = DIGIT SIZE

REV.	01	16 OCT 07	REVISOR	JDD
DATE			DESCRIPTION	BY
				APPR.

PROJ: OUTDOOR LED SCOREBOARDS
 TITLE: COMPONENT LOCATION: FB-3010-11/-21, G4
 DES. BY: BCURTIS
 DRAWN BY: BCURTIS
 DATE: 10 AUG 07
 1407-R08A-316034

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DAKTRONICS, INC. BROOKINGS, SD 57006



LAYOUT VIEW
COLUMNS & FOOTING ONLY

TABLE A - MOUNTING

EXPOSURE B

HEIGHT ABOVE GRADE = 10'				HEIGHT ABOVE GRADE = 15'					
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY			DISPLAY HEIGHT (FT)	DESIGN WIND VELOCITY			
		90 MPH	110 MPH	130 MPH		90 MPH	110 MPH	130 MPH	
8	COLUMN FOOTING	W8X28 3.0'X8.0'	W10X33 3.0'X9.5'	W12X40 3.0'X11.0'	8	COLUMN FOOTING	W10X39 3.0'X9.0'	W14X48 3.0'X10.5'	W12X53 3.0'X12.0'
10	COLUMN FOOTING	W10X33 3.0'X9.0'	W12X40 3.0'X10.5'	W14X48 3.0'X12.0'	10	COLUMN FOOTING	W10X45 3.0'X10.0'	W12X53 3.0'X11.5'	W12X65 3.0'X14.0'
12	COLUMN FOOTING	W12X40 3.0'X10.0'	W10X49 3.0'X11.5'	W12X58 3.0'X13.5'	12	COLUMN FOOTING	W12X53 3.0'X11.0'	W12X65 3.0'X13.0'	W18X76 3.0'X16.0'
14	COLUMN FOOTING	W14X48 3.0'X11.0'	W12X58 3.0'X12.5'	W16X67 3.0'X15.5'	14	COLUMN FOOTING	W12X50* 3.0'X12.0'	W21X55* 3.0'X14.5'	W21X68* 3.0'X18.0'
16	COLUMN FOOTING	W12X53 3.0'X11.5'	W12X65 3.0'X14.0'	W18X76 3.0'X17.0'	16	COLUMN FOOTING	W21X48* 3.0'X12.5'	W16X67* 3.0'X16.0'	W18X76* 3.0'X20.0'
18	COLUMN FOOTING	W12X53* 3.0'X12.5'	W14X61* 3.0'X15.5'	W18X76* 3.0'X19.0'	18	COLUMN FOOTING	W14X61* 3.0'X14.0'	W18X76* 3.0'X17.5'	W18X97* 3.0'X22.0'
20	COLUMN FOOTING	W12X53* 3.0'X13.5'	W16X67* 3.0'X17.0'	W18X86* 3.0'X21.0'	20	COLUMN FOOTING	W14X68* 3.0'X15.0'	W18X76* 3.0'X19.0'	W21X101* 3.0'X24.0'

FOOTING DIMENSIONS = DIAMETER X DEPTH
* DENOTES BUCKLING BRACES REQUIRED

NOTES:

- FOOTING AND COLUMN SIZES ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES. THE DESIGN MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE INSTALLATION BEFORE THEY CAN BE USED FOR FABRICATION OR ERECTION.
- INTERNATIONAL BUILDING CODE 2006 USED IN DESIGN OF COLUMNS AND FOOTINGS WITH IMPORTANCE FACTOR=1, Kzt=1.0, Kd=0.85, G=0.85. SEISMIC DESIGN WAS NOT CONSIDERED.
- FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL CLASS 4 (ALLOWABLE LATERAL BEARING PRESSURE OF 150 psf).
- STRUCTURAL STEEL IS GRADE A992 (50 ksi) STEEL. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 psi.
- THE AVERAGE DISPLAY WEIGHT FOR A LAYOUT CAN NOT EXCEED 8 PSF.
- DAKTRONICS INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.
- REFER TO DAKTRONICS DRAWING 1407-E07B-299257 FOR DETAILS OF DISPLAY MOUNTING TO COLUMNS.
- LOCAL BUILDING OFFICIALS SHOULD BE CONTACTED TO DETERMINE THE WIND SPEED AND EXPOSURE CATEGORY FOR THE PROPOSED SIGN LOCATION. THE EXPOSURE CATEGORIES B AND C ARE DEFINED AS:

EXPOSURE B - URBAN AND SUBURBAN AREAS, WOODED AREAS, OR OTHER TERRAIN WITH NUMEROUS CLOSELY SPACED OBSTRUCTIONS HAVING THE SIZE OF SINGLE-FAMILY DWELLINGS OR LARGER. THESE CONDITIONS MUST PREVAIL FOR A DISTANCE FROM THE SIGN OF AT LEAST 2,600 ft OR 20 TIMES THE SIGN HEIGHT, WHICHEVER IS GREATER

EXPOSURE C - OPEN TERRAIN WITH SCATTERED OBSTRUCTIONS HAVING HEIGHTS GENERALLY LESS THAN 30 FT. THIS CATEGORY INCLUDES FLAT OPEN COUNTRY, GRASSLANDS, AND ALL WATER SURFACES IN HURRICANE PRONE REGIONS.
- FOR SPECIFIC PRODUCT DETAILS ON WEIGHT, MOUNTING, ETC. REFER TO THE INDIVIDUAL PRODUCT SPECIFICATION SHEETS.

EXPOSURE C

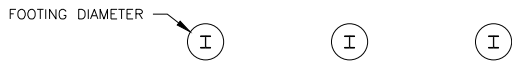
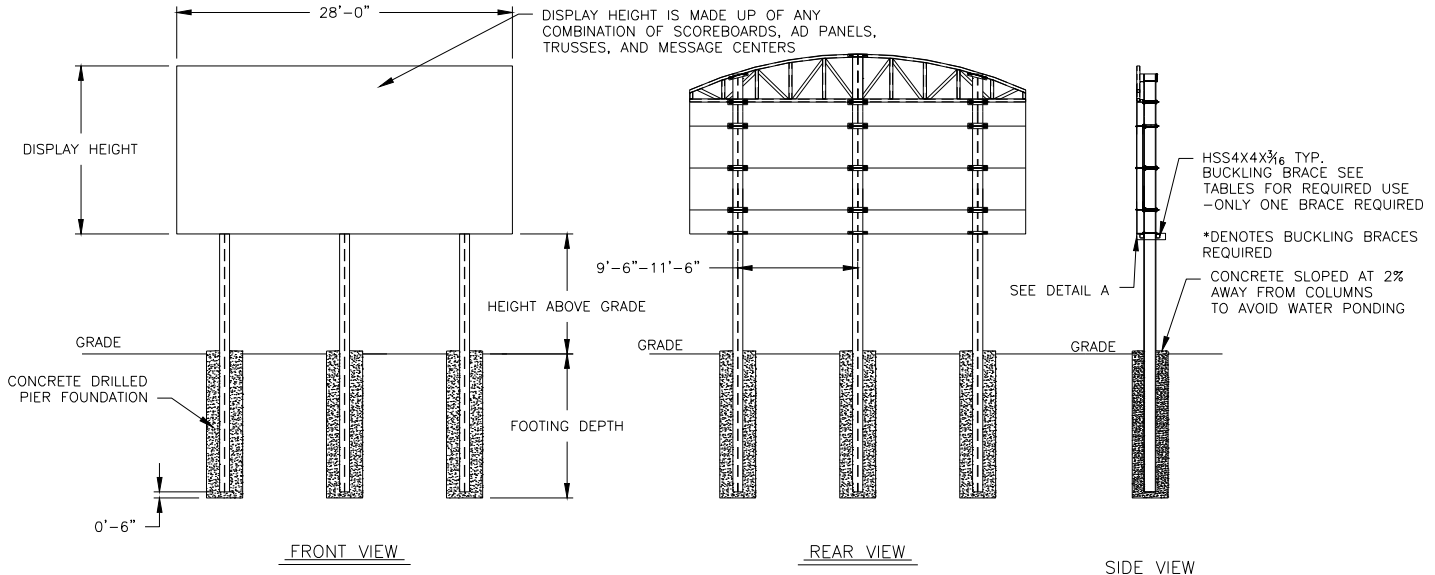
HEIGHT ABOVE GRADE = 10'			HEIGHT ABOVE GRADE = 15'				
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY		DISPLAY HEIGHT (FT)	DESIGN WIND VELOCITY		
		90 MPH	110 MPH		90 MPH	110 MPH	
8	COLUMN FOOTING	W10X33 3.0'X9.5'	W12X40 3.0'X11.0'	8	COLUMN FOOTING	W10X45 3.0'X10.5'	W12X53 3.0'X12.0'
10	COLUMN FOOTING	W12X40 3.0'X10.5'	W12X53 3.0'X12.0'	10	COLUMN FOOTING	W12X53 3.0'X11.5'	W12X65 3.0'X14.0'
12	COLUMN FOOTING	W14X48 3.0'X11.5'	W14X61 3.0'X14.0'	12	COLUMN FOOTING	W14X61 3.0'X12.5'	W18X76 3.0'X16.0'
14	COLUMN FOOTING	W12X58 3.0'X12.0'	W16X67 3.0'X15.5'	14	COLUMN FOOTING	W18X55* 3.0'X14.0'	W21X68* 3.0'X18.0'
16	COLUMN FOOTING	W12X65 3.0'X13.5'	W18X76 3.0'X17.5'	16	COLUMN FOOTING	W16X67* 3.0'X15.5'	W18X76* 3.0'X20.0'
18	COLUMN FOOTING	W14X61* 3.0'X15.0'	W18X76* 3.0'X19.5'	18	COLUMN FOOTING	W16X67* 3.0'X17.0'	W18X97* 3.0'X22.0'
20	COLUMN FOOTING	W16X67* 3.0'X16.5'	W18X86* 3.0'X21.0'	20	COLUMN FOOTING	W18X76* 3.0'X18.5'	W21X101* 3.0'X24.0'

FOOTING DIMENSIONS = DIAMETER X DEPTH
* DENOTES BUCKLING BRACES REQUIRED

NOTE:
-REFER TO NOTE 8 FOR EXPOSURE CATEGORY DEFINITIONS.

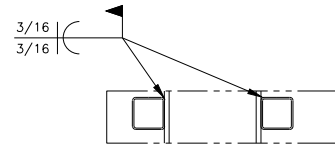
<p>DAKTRONICS, INC. BROOKINGS, SD 57006</p>	<p>DO NOT SCALE DRAWING</p>		<p>THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2011 DAKTRONICS, INC.</p>
	<p>PROJ: OUTDOOR SCOREBOARD INSTALLATION TITLE: 25' WIDTH SCOREBOARD INSTALLATION SPECS.</p>		
<p>DESIGN: AWRUCKE</p>	<p>DRAWN: AWRUCKE</p>	<p>DATE: 16 AUG 07</p>	
<p>SCALE: 1/16" = 1'</p>			
<p>SHEET</p>	<p>REV</p>	<p>JOB NO:</p>	<p>FUNC-TYPE-SIZE</p>
<p>03</p>	<p>P1538</p>	<p>E-10-A</p>	<p>316750</p>

REV	DATE	DESCRIPTION	BY
03	26 OCT 11	ADDED "ONLY ONE BRACE REQUIRED" NOTE	KDD
02	10 DEC 08	REMOVED PRODUCT TABLES AND CHANGED DRAWING TO A SIZE	JKU
01	11 NOV 08	UPDATED CHARTS	JDB



LAYOUT VIEW

COLUMNS & FOOTING ONLY



DETAIL A
(8 X SCALE)

TABLE A - MOUNTING

HEIGHT ABOVE GRADE = 10'					HEIGHT ABOVE GRADE = 15'				
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY			DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY		
		90 MPH	110 MPH	130 MPH			90 MPH	110 MPH	130 MPH
8	COLUMN FOOTING	W8X24 3.0'X7.5'	W10X30 3.0'X8.5'	W10X33 3.0'X9.5'	8	COLUMN FOOTING	W8X31 3.0'X8.0'	W10X39 3.0'X9.5'	W12X45 3.0'X10.5'
10	COLUMN FOOTING	W8X28 3.0'X8.0'	W10X33 3.0'X9.5'	W12X40 3.0'X10.5'	10	COLUMN FOOTING	W10X39 3.0'X9.0'	W14X48 3.0'X10.5'	W12X53 3.0'X11.5'
12	COLUMN FOOTING	W10X33 3.0'X9.0'	W12X40 3.0'X10.0'	W12X49 3.0'X11.5'	12	COLUMN FOOTING	W10X45 3.0'X9.5'	W12X53 3.0'X11.0'	W12X65 3.0'X13.0'
14	COLUMN FOOTING	W12X39 3.0'X9.5'	W10X49 3.0'X11.0'	W12X58 3.0'X12.5'	14	COLUMN FOOTING	W16X36* 3.0'X10.5'	W14X48* 3.0'X12.0'	W21X55* 3.0'X14.5'
16	COLUMN FOOTING	W10X45 3.0'X10.0'	W12X53 3.0'X12.0'	W16X65 3.0'X14.0'	16	COLUMN FOOTING	W14X43* 3.0'X11.0'	W18X55* 3.0'X13.0'	W21X62* 3.0'X16.0'
18	COLUMN FOOTING	W10X45* 3.0'X11.0'	W12X53* 3.0'X12.5'	W14X61* 3.0'X15.5'	18	COLUMN FOOTING	W14X48* 3.0'X12.0'	W14X61* 3.0'X14.5'	W18X76* 3.0'X18.0'
20	COLUMN FOOTING	W12X49* 3.0'X11.5'	W12X58* 3.0'X14.0'	W16X67* 3.0'X17.0'	20	COLUMN FOOTING	W12X53* 3.0'X12.5'	W16X67* 3.0'X16.0'	W18X76* 3.0'X19.5'

FOOTING DIMENSIONS = DIAMETER X DEPTH
*DENOTES BUCKLING BRACE REQUIRED

NOTES:

- FOOTING AND COLUMN SIZES ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES. THE DESIGN MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE INSTALLATION BEFORE THEY CAN BE USED FOR FABRICATION OR ERECTION.
- INTERNATIONAL BUILDING CODE 2006 USED IN DESIGN OF COLUMNS AND FOOTINGS WITH IMPORTANCE FACTOR=1, Kzt=1.0, Kd=0.85, G=0.85. SEISMIC DESIGN WAS NOT CONSIDERED.
- FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL CLASS 4 (ALLOWABLE LATERAL BEARING PRESSURE OF 150 psf).
- STRUCTURAL STEEL IS GRADE A992 (50 ksi) STEEL. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 psi.
- THE AVERAGE DISPLAY WEIGHT FOR A LAYOUT CAN NOT EXCEED 8 PSF.
- DAKTRONICS INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.
- REFER TO DAKTRONICS DRAWING 1407-E07B-299257 FOR DETAILS OF DISPLAY MOUNTING TO COLUMNS.
- LOCAL BUILDING OFFICIALS SHOULD BE CONTACTED TO DETERMINE THE WIND SPEED AND EXPOSURE CATEGORY FOR THE PROPOSED SIGN LOCATION. THE EXPOSURE CATEGORIES B AND C ARE DEFINED AS:
EXPOSURE B - URBAN AND SUBURBAN AREAS, WOODED AREAS, OR OTHER TERRAIN WITH NUMEROUS CLOSELY SPACED OBSTRUCTIONS HAVING THE SIZE OF SINGLE-FAMILY DWELLINGS OR LARGER. THESE CONDITIONS MUST PREVAIL FOR A DISTANCE FROM THE SIGN OF AT LEAST 2,600 FT OR 20 TIMES THE SIGN HEIGHT, WHICHEVER IS GREATER
EXPOSURE C - OPEN TERRAIN WITH SCATTERED OBSTRUCTIONS HAVING HEIGHTS GENERALLY LESS THAN 30 FT. THIS CATEGORY INCLUDES FLAT OPEN COUNTRY, GRASSLANDS, AND ALL WATER SURFACES IN HURRICANE PRONE REGIONS.
- FOR SPECIFIC PRODUCT DETAILS ON WEIGHT, MOUNTING, ETC. REFER TO THE INDIVIDUAL PRODUCT SPECIFICATION SHEETS.

EXPOSURE C

HEIGHT ABOVE GRADE = 10'				HEIGHT ABOVE GRADE = 15'			
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY		DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY	
		90 MPH	110 MPH			90 MPH	110 MPH
8	COLUMN FOOTING	W8X28 3.0'X8.5'	W10X33 3.0'X9.5'	8	COLUMN FOOTING	W10X39 3.0'X9.0'	W14X48 3.0'X10.5'
10	COLUMN FOOTING	W10X33 3.0'X9.0'	W12X40 3.0'X10.5'	10	COLUMN FOOTING	W10X45 3.0'X10.0'	W12X53 3.0'X11.5'
12	COLUMN FOOTING	W12X40 3.0'X10.0'	W12X50 3.0'X11.5'	12	COLUMN FOOTING	W12X53 3.0'X11.0'	W12X65 3.0'X13.0'
14	COLUMN FOOTING	W12X50 3.0'X11.0'	W12X58 3.0'X12.5'	14	COLUMN FOOTING	W14X48* 3.0'X12.0'	W21X55* 3.0'X14.5'
16	COLUMN FOOTING	W12X53 3.0'X11.5'	W12X65 3.0'X14.0'	16	COLUMN FOOTING	W21X48* 3.0'X12.5'	W21X62* 3.0'X16.0'
18	COLUMN FOOTING	W12X53* 3.0'X12.5'	W14X61* 3.0'X15.5'	18	COLUMN FOOTING	W14X61* 3.0'X14.0'	W18X76* 3.0'X18.0'
20	COLUMN FOOTING	W12X53* 3.0'X13.5'	W16X67* 3.0'X17.0'	20	COLUMN FOOTING	W16X67* 3.0'X15.0'	W18X76* 3.0'X19.5'

FOOTING DIMENSIONS = DIAMETER X DEPTH
*DENOTES BUCKLING BRACE REQUIRED

NOTE:
-REFER TO NOTE 8 FOR EXPOSURE CATEGORY DEFINITIONS.

<p>DAKTRONICS, INC. BROOKINGS, SD 57006</p>	<p>THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2011 DAKTRONICS, INC.</p>	
	<p>DO NOT SCALE DRAWING</p>	
<p>PROJ: OUTDOOR SCOREBOARD INSTALLATION</p>		
<p>TITLE: 28' WIDTH SCOREBOARD INSTALLATION SPECS.</p>		
DESIGN: AWRUCKE	DRAWN: AWRUCKE	DATE: 20 AUG 07
<p>SCALE: 1/16" = 1'</p>		
SHEET	REV	JOB NO:
	03	P1538
FUNC-TYPE-SIZE		
E-10-A		316971

REV 03	DATE: 26 OCT 11	ADDED "ONLY ONE BRACE REQUIRED" NOTE	BY: KDD
REV 02	DATE: 8 JUL 11	UPDATED EXPOSURE C, 10' OFF GRADE, 14' HEIGHT, 90 MPH COLUMN SIZE FROM 12X48 TO 12X50	BY: TJH
REV 01	DATE: 10 DEC 08	REMOVED PRODUCT TABLE AND CHANGED DRAWING TO A SIZE	BY: JKU

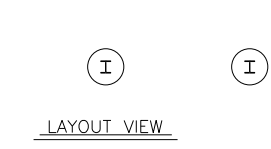
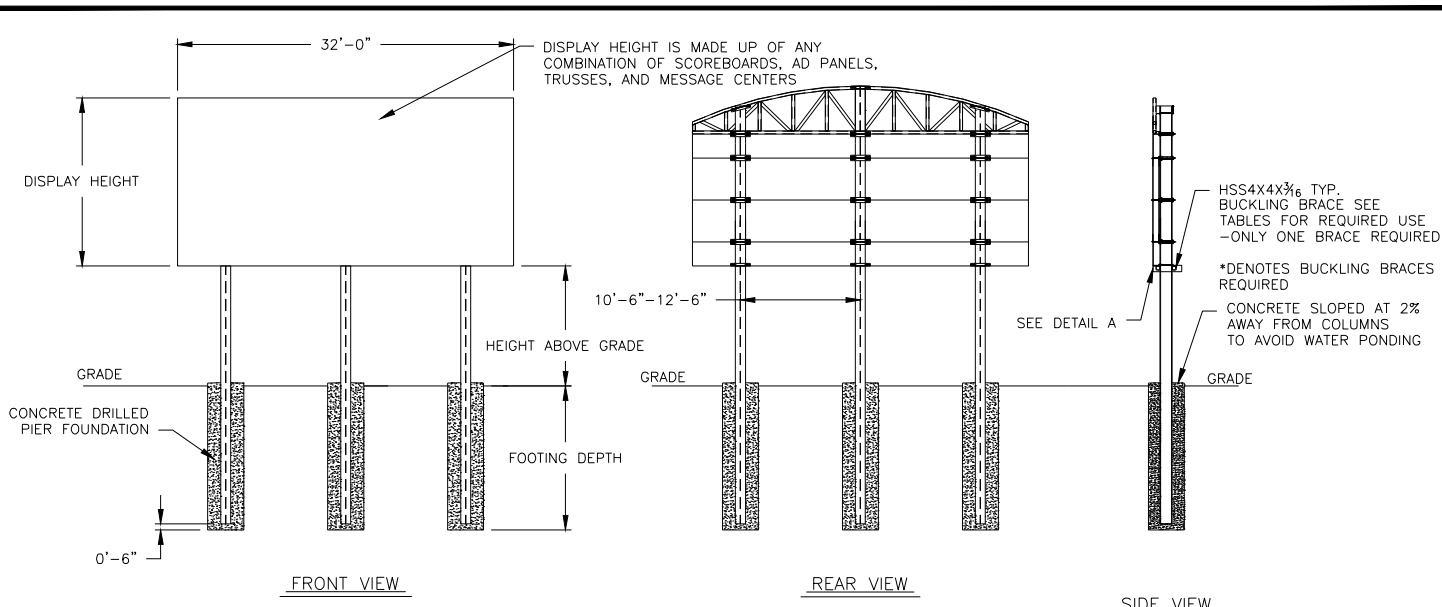
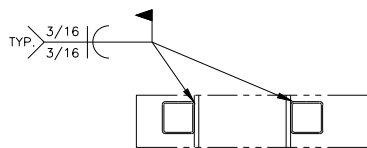


TABLE A - MOUNTING



EXPOSURE B

HEIGHT ABOVE GRADE = 10'			HEIGHT ABOVE GRADE = 15'					
DISPLAY HEIGHT (FT)	COLUMN FOOTING	DESIGN WIND VELOCITY			DISPLAY HEIGHT (FT)	DESIGN WIND VELOCITY		
		90 MPH	110 MPH	130 MPH		90 MPH	110 MPH	130 MPH
8	W8X24 3.0'X7.5'	W12X30 3.0'X9.0'	W16X36 3.0'X10.0'	8	W10X33 3.0'X8.5'	W14X43 3.0'X10.0'	W10X49 3.0'X11.0'	
10	W8X31 3.0'X8.5'	W10X39 3.0'X10.0'	W14X43 3.0'X11.0'	10	W14X43 3.0'X9.5'	W10X49 3.0'X11.0'	W12X58 3.0'X12.5'	
12	W10X39 3.0'X9.5'	W10X45 3.0'X10.5'	W12X53 3.0'X12.0'	12	W10X49 3.0'X10.0'	W12X58 3.0'X12.0'	W16X67 3.0'X14.0'	
14	W14X43 3.0'X10.0'	W12X53 3.0'X11.5'	W14X61 3.0'X14.0'	14	W16X40* 3.0'X11.0'	W21X48* 3.0'X13.0'	W21X62* 3.0'X16.0'	
16	W10X49 3.0'X10.5'	W12X58 3.0'X12.5'	W12X72 3.0'X15.5'	16	W14X48* 3.0'X11.5'	W21X55* 3.0'X14.5'	W21X68* 3.0'X17.5'	
18	W10X45* 3.0'X11.5'	W12X58* 3.0'X14.0'	W16X67* 3.0'X17.0'	18	W12X53* 3.0'X12.5'	W16X67* 3.0'X16.0'	W18X76* 3.0'X19.5'	
20	W12X53* 3.0'X12.0'	W14X61* 3.0'X15.0'	W18X67* 3.0'X19.0'	20	W14X61* 3.0'X13.5'	W18X76* 3.0'X17.5'	W18X97* 3.0'X21.0'	

FOOTING DIMENSIONS = DIAMETER X DEPTH
*DENOTES BUCKLING BRACE REQUIRED

EXPOSURE C

HEIGHT ABOVE GRADE = 10'			HEIGHT ABOVE GRADE = 15'			
DISPLAY HEIGHT (FT)	COLUMN FOOTING	DESIGN WIND VELOCITY		DISPLAY HEIGHT (FT)	DESIGN WIND VELOCITY	
		90 MPH	110 MPH		90 MPH	110 MPH
8	W12X30 3.0'X9.0'	W14X38 3.0'X10.0'	8	W12X40 3.0'X9.5'	W12X53 3.0'X11.5'	
10	W10X39 3.0'X9.5'	W14X43 3.0'X11.5'	10	W10X49 3.0'X10.5'	W12X58 3.0'X12.5'	
12	W14X43 3.0'X10.5'	W12X53 3.0'X12.5'	12	W12X58 3.0'X11.5'	W12X72 3.0'X14.0'	
14	W12X53 3.0'X11.5'	W14X61 3.0'X14.0'	14	W21X48* 3.0'X12.5'	W21X62* 3.0'X16.0'	
16	W12X58 3.0'X12.0'	W12X72 3.0'X15.5'	16	W21X55* 3.0'X14.0'	W21X68* 3.0'X17.5'	
18	W12X53* 3.0'X13.5'	W16X67* 3.0'X17.0'	18	W16X67 3.0'X15.0'	W18X76* 3.0'X19.5'	
20	W14X61* 3.0'X14.5'	W18X76* 3.0'X19.0'	20	W16X67* 3.0'X16.5'	W18X97* 3.0'X21.0'	

FOOTING DIMENSIONS = DIAMETER X DEPTH
*DENOTES BUCKLING BRACE REQUIRED

NOTE:
-REFER TO NOTE 8 FOR EXPOSURE CATEGORY DEFINITIONS.

- NOTES:
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 - FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL CLASS 4 (ALLOWABLE LATERAL BEARING PRESSURE OF 150 psf).
 - STRUCTURAL STEEL IS GRADE A992 (50 ksi) STEEL. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 psi.
 - THE AVERAGE DISPLAY WEIGHT FOR A LAYOUT CAN NOT EXCEED 8 PSF.
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 - REFER TO DAKTRONICS DRAWING 1407-E07B-299257 FOR DETAILS OF DISPLAY MOUNTING TO COLUMNS.
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EXPOSURE B - URBAN AND SUBURBAN AREAS, WOODED AREAS, OR OTHER TERRAIN WITH NUMEROUS CLOSELY SPACED OBSTRUCTIONS HAVING THE SIZE OF SINGLE-FAMILY DWELLINGS OR LARGER. THESE CONDITIONS MUST PREVAIL FOR A DISTANCE FROM THE SIGN OF AT LEAST 2,600 ft OR 20 TIMES THE SIGN HEIGHT, WHICHEVER IS GREATER

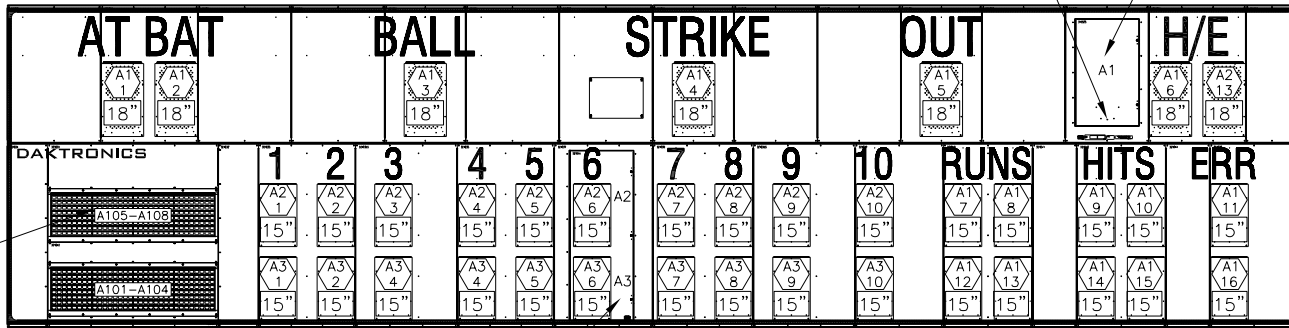
EXPOSURE C - OPEN TERRAIN WITH SCATTERED OBSTRUCTIONS HAVING HEIGHTS GENERALLY LESS THAN 30 FT. THIS CATEGORY INCLUDES FLAT OPEN COUNTRY, GRASSLANDS, AND ALL WATER SURFACES IN HURRICANE PRONE REGIONS.
 - FOR SPECIFIC PRODUCT DETAILS ON WEIGHT, MOUNTING, ETC. REFER TO THE INDIVIDUAL PRODUCT SPECIFICATION SHEETS.

<p>BROOKINGS, SD 57006</p>	<p>DO NOT SCALE DRAWING</p>		<p>THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2011 DAKTRONICS, INC.</p>
	<p>PROJ: OUTDOOR SCOREBOARD INSTALLATION</p>		
<p>TITLE: 32' WIDTH SCOREBOARD INSTALLATION SPECS</p>			
<p>DESIGN: AWRUCKE</p>	<p>DRAWN: AWRUCKE</p>	<p>DATE: 22AUG 07</p>	
<p>SCALE: 1/16" = 1'</p>			
<p>SHEET</p>	<p>REV</p>	<p>JOB NO:</p>	<p>FUNC-TYPE-SIZE</p>
	<p>02</p>	<p>P1538</p>	<p>E-10-A</p>
			<p>317264</p>

REV 02	DATE: 26 OCT 11	ADDED "ONLY ONE BRACE REQUIRED" NOTE	BY: KDD
REV 01	DATE: 10 DEC 08	REMOVED PRODUCT TABLE AND CHANGED DRAWING TO A SIZE	BY: JKU

REV. DATE DESCRIPTION BY APPR.

BA-3718-11/-21, G4



SEE DETAIL A (MASTER DRIVER & KNOCKOUT FOR 1/2" CONDUIT)
OPTIONAL RADIO

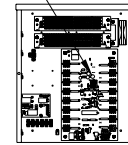
OPTIONAL TNMCS
8x32-34mm

SEE DETAIL B (SLAVE DRIVER @2)

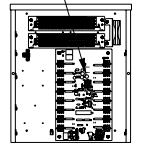
FRONT VIEW

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 @2. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)



DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

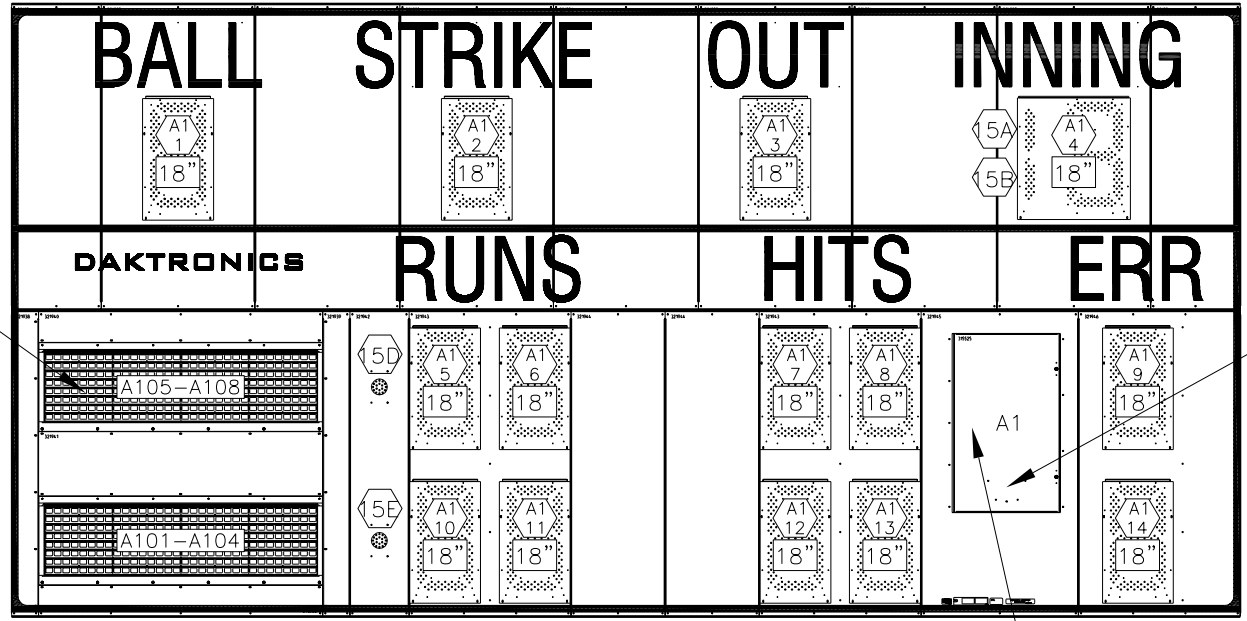
NOTES:

- = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
- = DIGIT SIZE
- = SEGMENT DESIGNATIONS

PROJ: OUTDOOR LED SCOREBOARDS
 TITLE: COMPONENT LOCATION: BA-3718-11/-21, G4
 DES. BY: BCURTIS DRAWN BY: JDERAIL DATE: 04 OCT 07
 REVISION APPR. BY: 00 SCALE: 1=40 1407-R08A-321817
 DAKTRONICS, INC. BROOKINGS, SD 57006
 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 2007 DAKTRONICS, INC.

REV. DATE DESCRIPTION BY APPR.

BA-1518-11/-21, G4



OPTIONAL TNMCS
8x32-34mm

OPTIONAL
RADIO

FRONT VIEW

SEE DETAIL A
(MASTER DRIVER &
KNOCKOUT FOR 1/2"
CONDUIT)

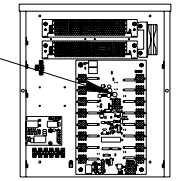
NOTES:

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

= DIGIT SIZE

= SEGMENT DESIGNATIONS

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



DETAIL: A
x2 SCALE

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PROJ: OUTDOOR LED SCOREBOARDS
DAKTRONICS, INC. BROOKINGS, SD 57006

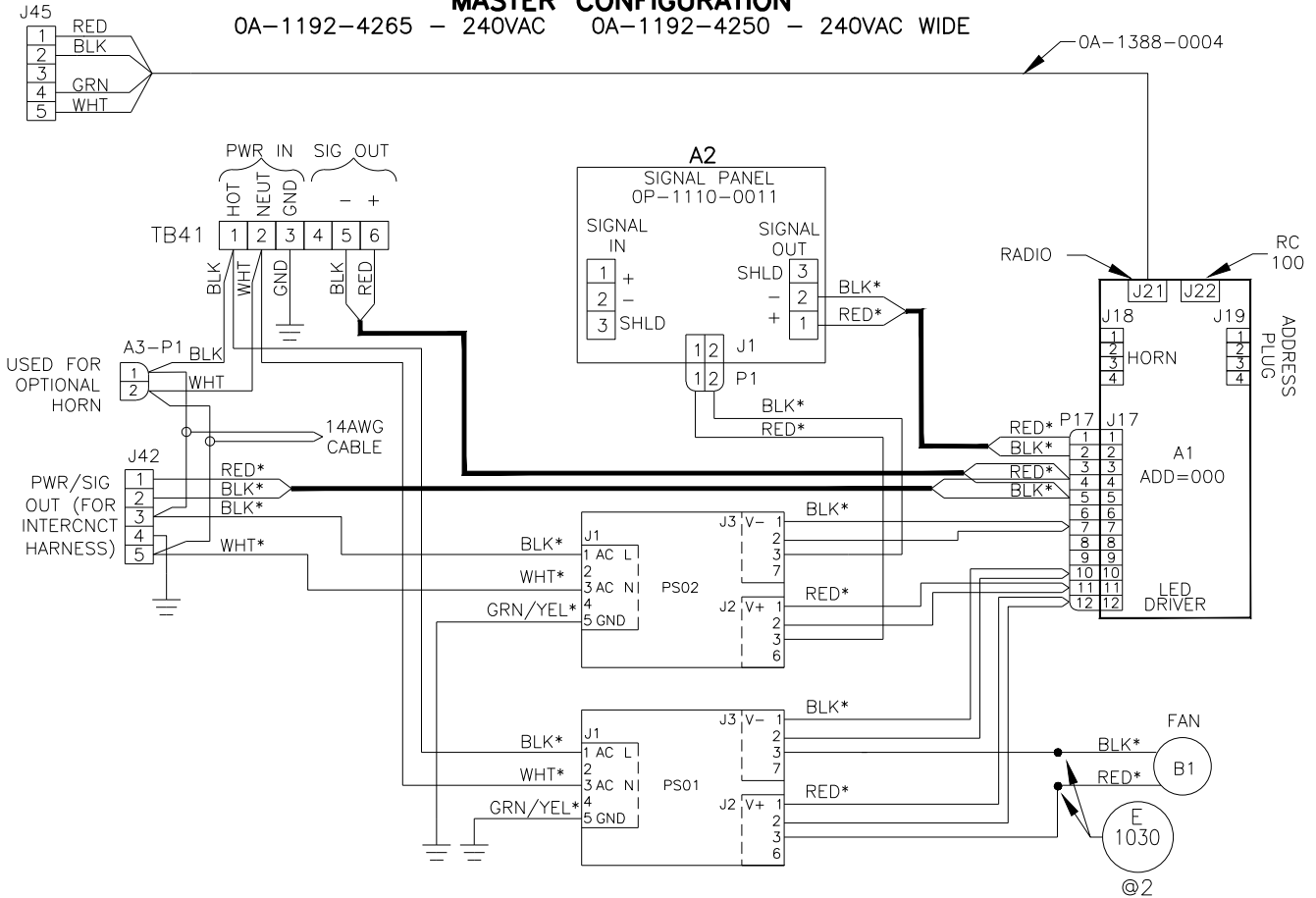
TITLE: COMPONENT LOCATION: BA-1518-11/-21, G4

DES. BY: BCURTIS DRAWN BY: JDERAIL DATE: 11 OCT 07

REVISION APPR. BY: 00 SCALE: 1=30 1407-R08A-322425

MASTER CONFIGURATION

0A-1192-4265 - 240VAC 0A-1192-4250 - 240VAC WIDE

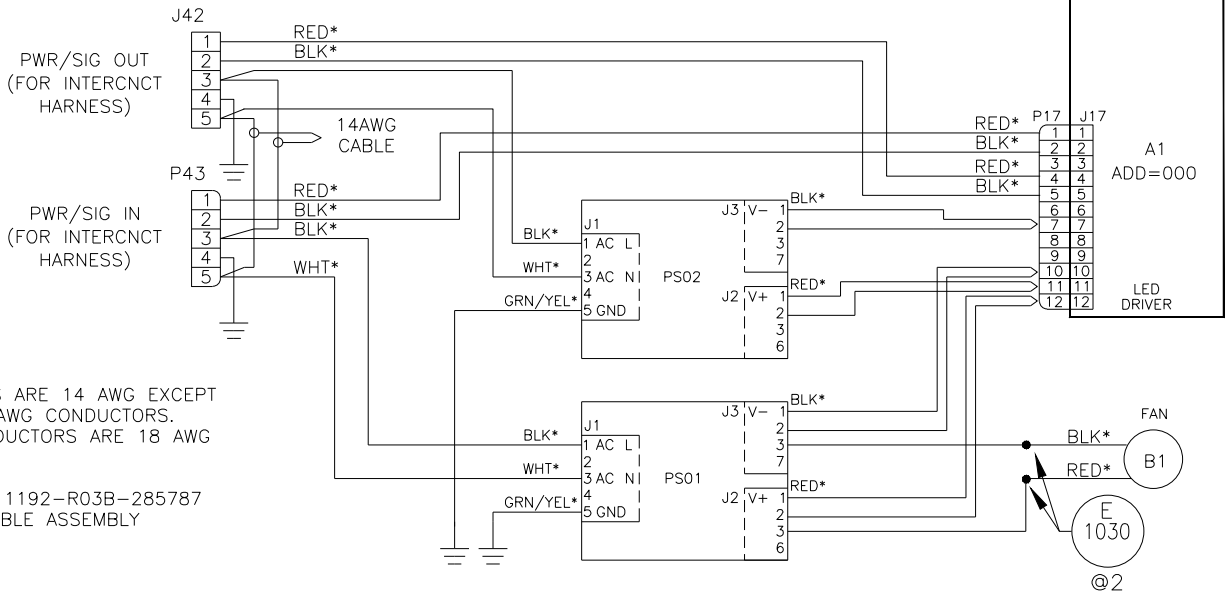


ALL CONDUCTORS ARE 14 AWG EXCEPT * INDICATES 18 AWG CONDUCTORS.
ALL SIGNAL CONDUCTORS ARE ALSO 18 AWG CONDUCTORS.

REFERENCE DWG 1192-R03C-285776 FOR DETAILED CABLE ASSEMBLY DIAGRAM.

SLAVE CONFIGURATION

0A-1192-4266 - 240VAC 0A-1192-4251 - 240VAC WIDE



ALL CONDUCTORS ARE 14 AWG EXCEPT
* INDICATES 18 AWG CONDUCTORS.
ALL SIGNAL CONDUCTORS ARE 18 AWG
CONDUCTORS.

REFERENCE DWG 1192-R03B-285787
FOR DETAILED CABLE ASSEMBLY
DIAGRAM.

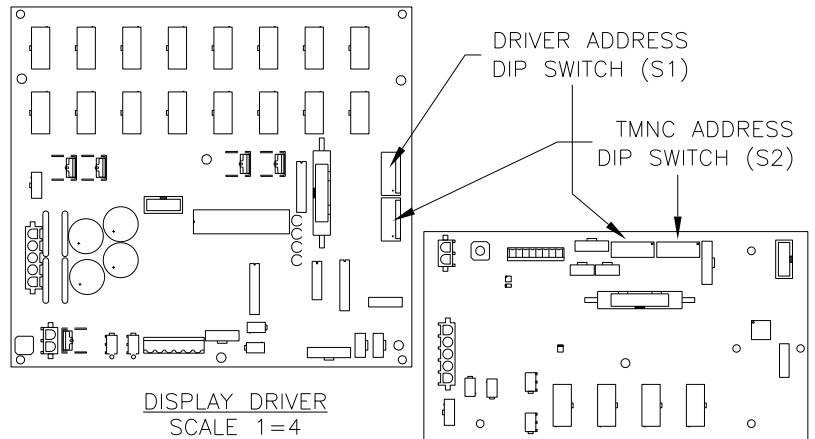
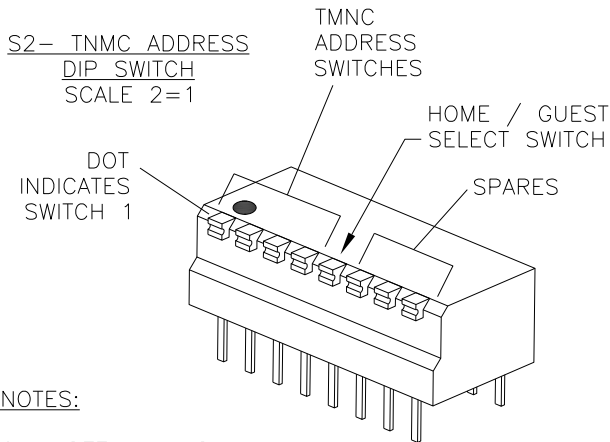
	DAKTRONICS, INC. BROOKINGS, SD 57006		THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2011 DAKTRONICS, INC.	
	DO NOT SCALE DRAWING			
PROJ: OUTDOOR LED SCOREBOARDS TITLE: SCHEMATIC: 240V GEN IV OUTDOOR LED- 16 COL DRIVER				
DESIGN: NONE		DRAWN: AGEWERT		DATE: 05 NOV 07
REV 02	DATE: 01 AUG 11	REMOVED 240V HORN CARD FROM SCHEMATIC, WILL BE PART OF AN OPTIONAL 240V HORN KIT	BY: MWM	
REV 01	DATE: 04 JUN 08	UPDATED LABELS	BY: NLH	
SHEET		REV 02	JOB NO: P1192	FUNC-TYPE-SIZE R-03-A
				324504

PROTOCOL ADDRESS	SWITCH SETTING	SWITCH 4	SWITCH 3	SWITCH 2	SWITCH 1
221	0	0	0	0	0
222	1	0	0	0	1
223	2	0	0	1	0
224	3	0	0	1	1
225	4	0	1	0	0
226	5	0	1	0	1
227	6	0	1	1	0
228	7	0	1	1	1
229	8	1	0	0	0
230	9	1	0	0	1
231	10	1	0	1	0
232	11	1	0	1	1
233	12	1	1	0	0
234	13	1	1	0	1
235	14	1	1	1	0
236	15	1	1	1	1

HOME / GUEST SELECT SWITCH FUNCTION TABLE

OFF	HOME / GUEST DATA SENT TO TNMC'S
ON	GUEST / HOME DATA SENT TO TNMC'S

SPARE 1	RESERVED FOR FUTURE USE
SPARE 2	RESERVED FOR FUTURE USE
SPARE 3	RESERVED FOR FUTURE USE



NOTES:

0 = OFF, 1 = ON

REFER TO THE FOLLOWING DRAWINGS FOR ADDITIONAL ADDRESS AND SWITCH SETTINGS: ADDRESS SWITCH A-328273

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: _____

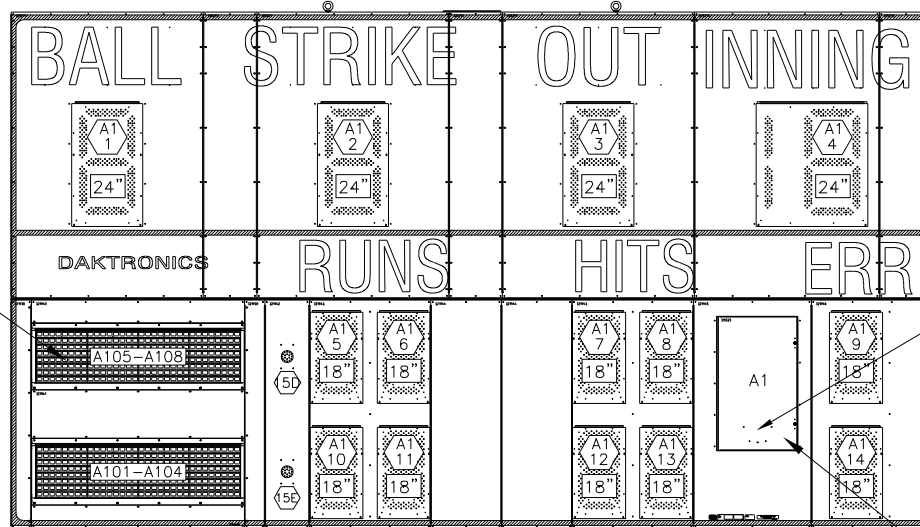
TITLE: ADDRESS TABLE: DRIVER- MCAST G2- TNMC SWITCH

DES. BY: _____ DRAWN BY: DULSCHM DATE: 18 DEC 07

REVISION	APPR. BY:	1388-R10A-328274
02	SCALE: NONE	

REV.	DATE	DESCRIPTION	BY	APPR.
02	21 SEP 09	ADDED 4 COL DRIVER DETAIL	DJU	
01	27 MAY 08	UPDATED CHARTS AND CORRECTED SWITCH DRAWING LAYOUT	DKD	

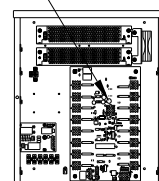
BA-1524-11/-21, G4



FRONT VIEW



SEE DETAIL A
(MASTER DRIVER &
KNOCKOUT FOR 1/2"
CONDUIT)

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



DETAIL: A
x2 SCALE

NOTES:

-  = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
-  = DIGIT SIZE

REV.	02	3 MAY 10	CHANGED DIGIT DESIGNATION FOR INDICATORS FROM SH TO 1SD AND 1OH TO 1SE.	BDS	APPR.
DATE			DESCRIPTION	BY	

PROJ.	OUTDOOR LED SCOREBOARDS				
TITLE:	COMPONENT LOCATION: BA-1524-11/-21 - G4				
DES. BY:	BCURTIS	DRAWN BY:	JDERANIL	DATE:	03 JAN 08
REVISION	01	APPR. BY:		SCALE:	1=40
		1407-R08A-329448			

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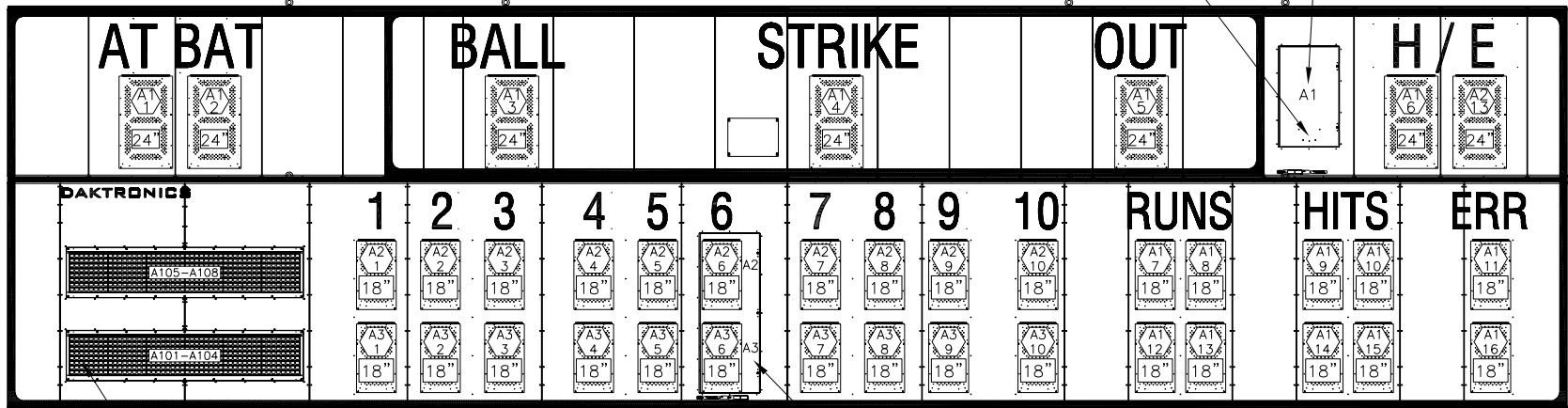
PROJ.: DAKTRONICS, INC. BROOKINGS, SD 57006

REV. DATE DESCRIPTION BY APPR.

BA-3724-11/-21, G4

SEE DETAIL A
(MASTER DRIVER &
KNOCKOUT FOR 1/2"
CONDUIT)

OPTIONAL RADIO



OPTIONAL TNMCS
8x32-34mm

SEE DETAIL B
(SLAVE DRIVER @2)

FRONT VIEW

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

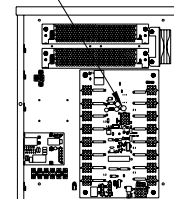
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @2. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

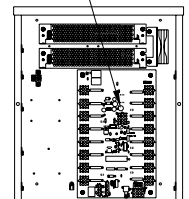
= LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.

= DIGIT SIZE

= SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE



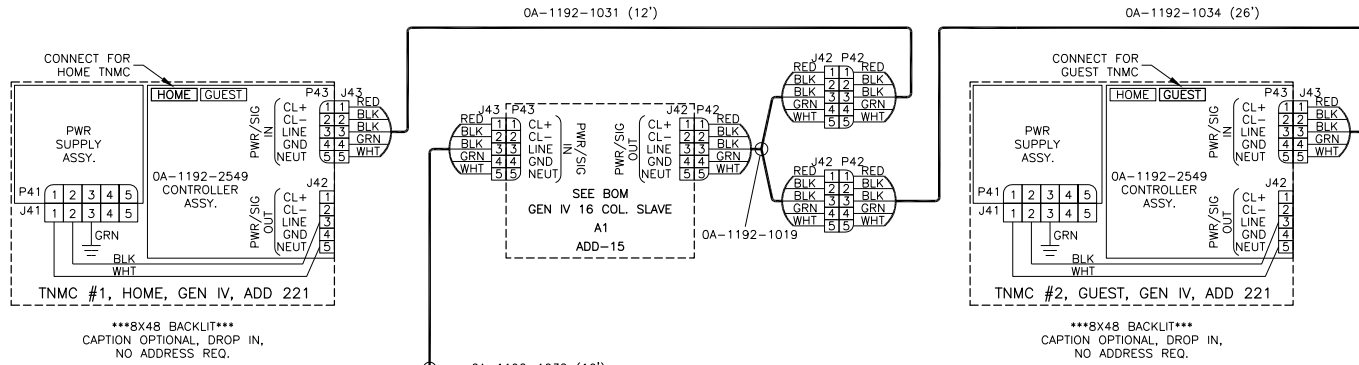
DETAIL: B
x2 SCALE

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PROJ: OUTDOOR LED SCOREBOARDS
DAKTRONICS, INC. BROOKINGS, SD 57006

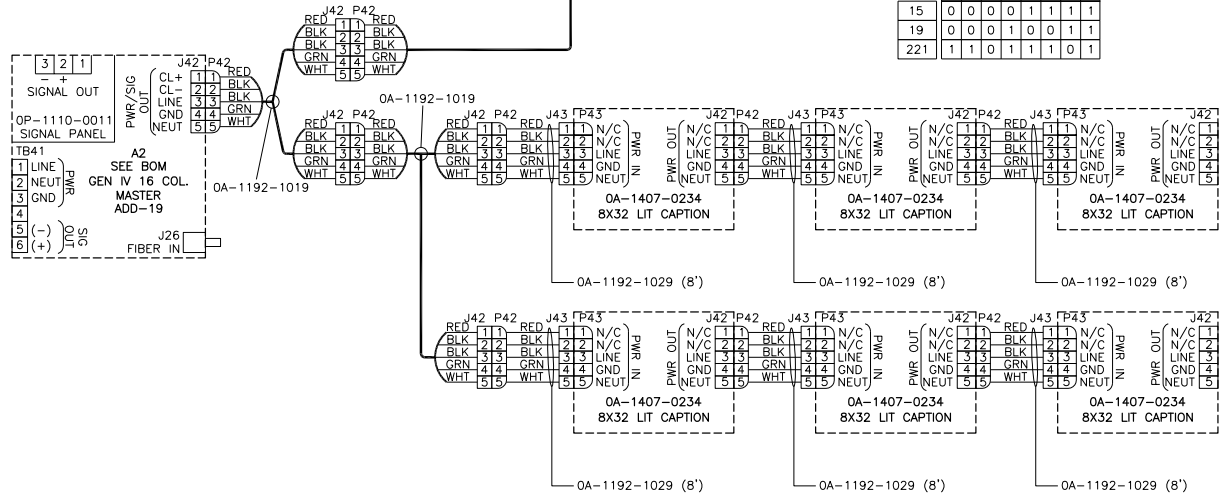
TITLE: COMPONENT LOCATION: BA-3724-11/-21, G4
DES. BY: BCURTIS DRAWN BY: JDERANIL DATE: 07 APR 08

REVISION APPR. BY: 1407-R08A-385478
00 SCALE: 1=50



DIP SWITCH ADDRESS SETTING

	SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
15	0	0	0	0	1	1	1	1
19	0	0	0	1	0	0	1	1
221	1	1	0	1	1	1	0	1



NOTE:
SEE DRAWING A-418370 FOR POWER SPECIFICATIONS FOR 32' MODELS.

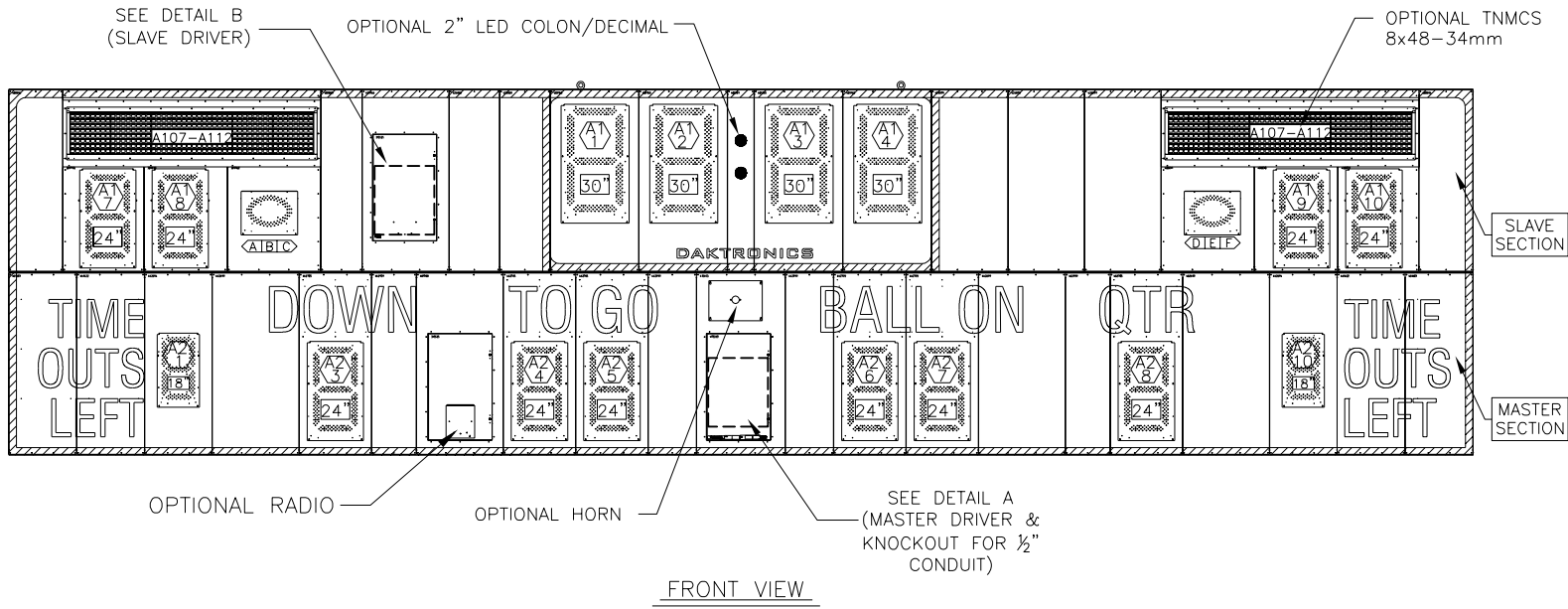
THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2008 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR LED SCOREBOARDS			
TITLE: SCHEMATIC; FB/SO-20XX 32' GEN IV SCBDS			
DES. BY:	APP. BY:	DATE:	17 JUL 08
REVISION	SCALE:	DRAWN BY: DDINING	
01	NONE	1407-R03B-576754	

REV.	DATE	DESCRIPTION	BY	APPR.
01	02 SEP 08	ADDED BACKLITS	KZB	

REV.	DATE	DESCRIPTION	BY	APPR.

FB-2024-11/-21, VINYL, G4



PROJ: OUTDOOR LED SCORE BOARDS
 TITLE: COMPONENT LOCATION: FB-2024-11/-21, VINYL, G4
 DES. BY: MKURTZ
 DRAWN BY: SPUTTAG
 DATE: 23 JUL 08

REVISION 00
 APPR. BY: [Signature]
 SCALE: 1:50

1407-E10A-580578



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 2008 DAKTRONICS, INC.

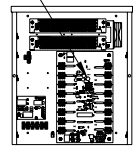
DAKTRONICS, INC. BROOKINGS, SD 57006

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

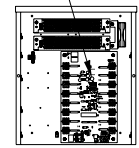
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE ©1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

-  = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
-  = DIGIT SIZE
- A|B|C = SEGMENT DESIGNATIONS



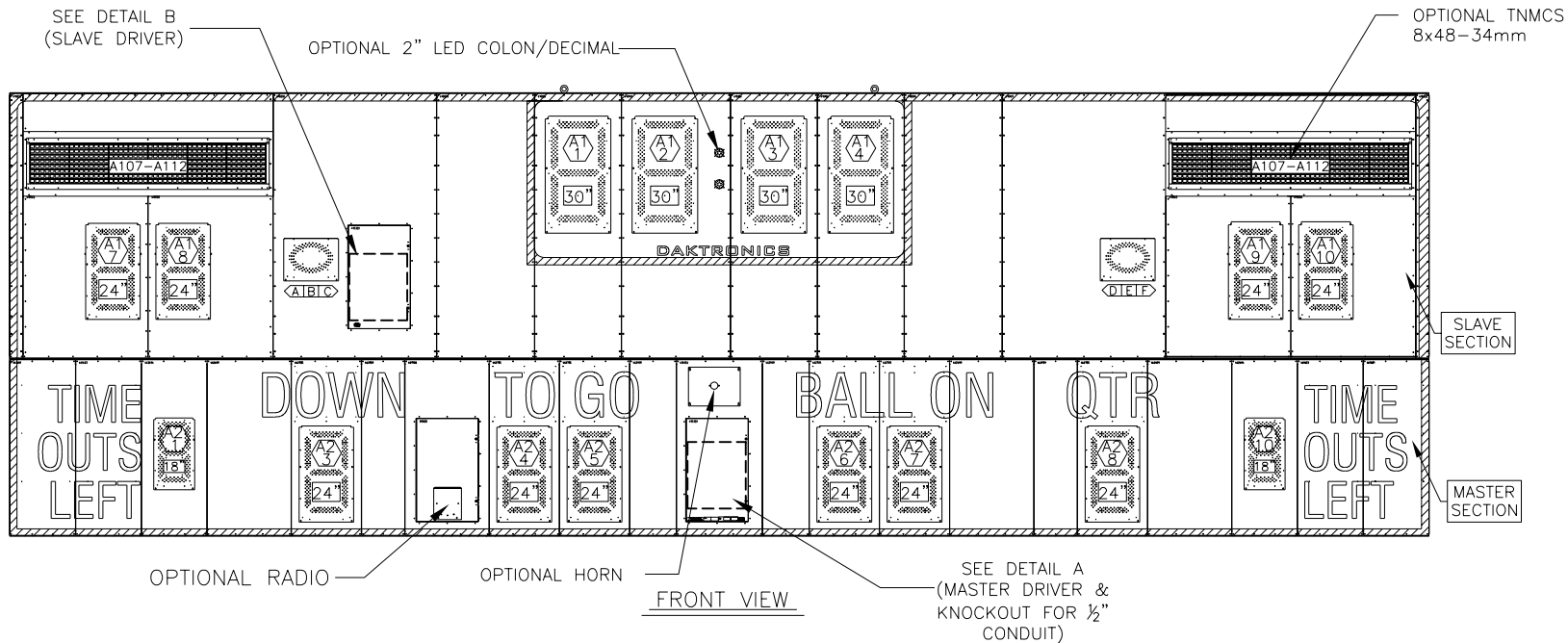
DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

REV.	DATE	DESCRIPTION	BY	APPR.

FB-2026-11/-21, VINYL, G4



OPTIONAL RADIO

OPTIONAL HORN

FRONT VIEW

SEE DETAIL A
(MASTER DRIVER &
KNOCKOUT FOR 1/2"
CONDUIT)

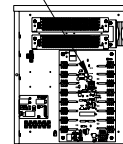
NOTES:

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

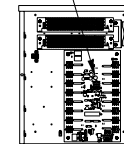
= SEGMENT DESIGNATIONS

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. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)



DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

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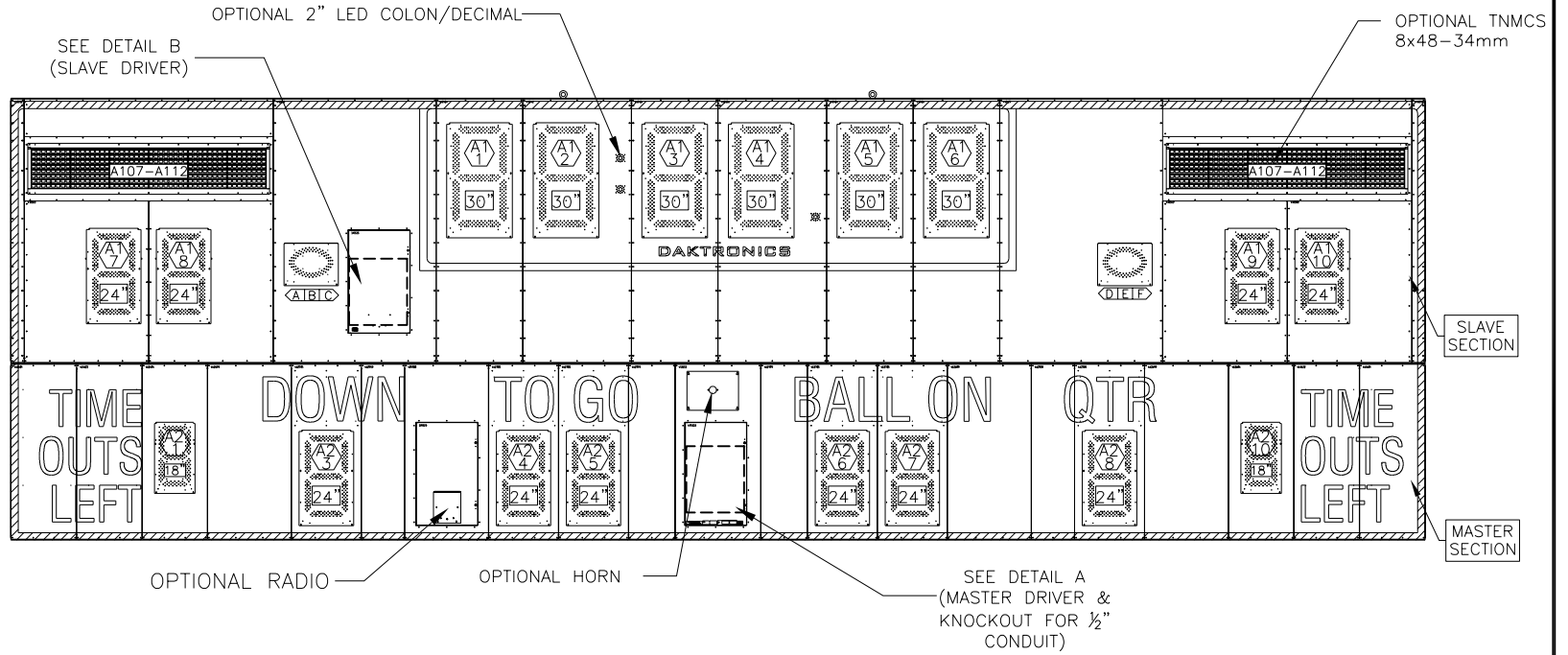
PROJ.: OUTDOOR LED SCORE BOARDS
 TITLE: COMPONENT LOCATION; FB-2026-11/-21, VINYL, G4
 DES. BY: MKURTZ
 DRAWN BY: SPUTTAG
 DATE: 24 JUL 08

DAKTRONICS, INC. BROOKINGS, SD 57006

REVISION 00
 APPR. BY: 1407-E10A-583033
 SCALE: 1:50

REV.	DATE	DESCRIPTION	BY	APPR.

FB-2027-11/-21, VINYL, G4

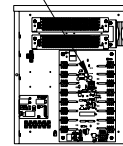


FRONT VIEW

NOTES:

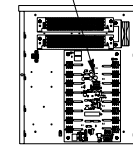
- = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
- = DIGIT SIZE
- = SEGMENT DESIGNATIONS

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



DETAIL: A
x2 SCALE

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



DETAIL: B
x2 SCALE

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PROJ.: OUTDOOR LED SCORE BOARDS
DAKTRONICS, INC. BROOKINGS, SD 57006

TITLE: COMPONENT LOCATION: FB-2027-11/-21, VINYL G4

DES. BY: MKURTZ DRAWN BY: SPUTTAG DATE: 25 JUL 08

REVISION 00 APPR. BY: SCALE: 1:50 1407-E10A-584382

REV.	DATE	DESCRIPTION	BY	APPR.
01	06 NOV 08	CHANGED NAME FROM FB-2023 TO MS-2009	SP	
02	04 SEP 09	CORRECTED DIGIT DESIGNATIONS	MAK	
03	13 MAY 10	ADDED NOTE "OPTIONAL ELECTRONIC CAPTIONS"	KDD	

PROJ.	OUTDOOR LED SCORE BOARDS
TITLE	COMPONENT LOCATIONS; MS-2009-11/-21 W/ TNMC
DES. BY:	TWEBER
DRAWN BY:	SPUTTAG
DATE:	04 NOV 08
REVISION	APPR. BY:
03	
SCALE:	1:40
1407-R08A-745603	

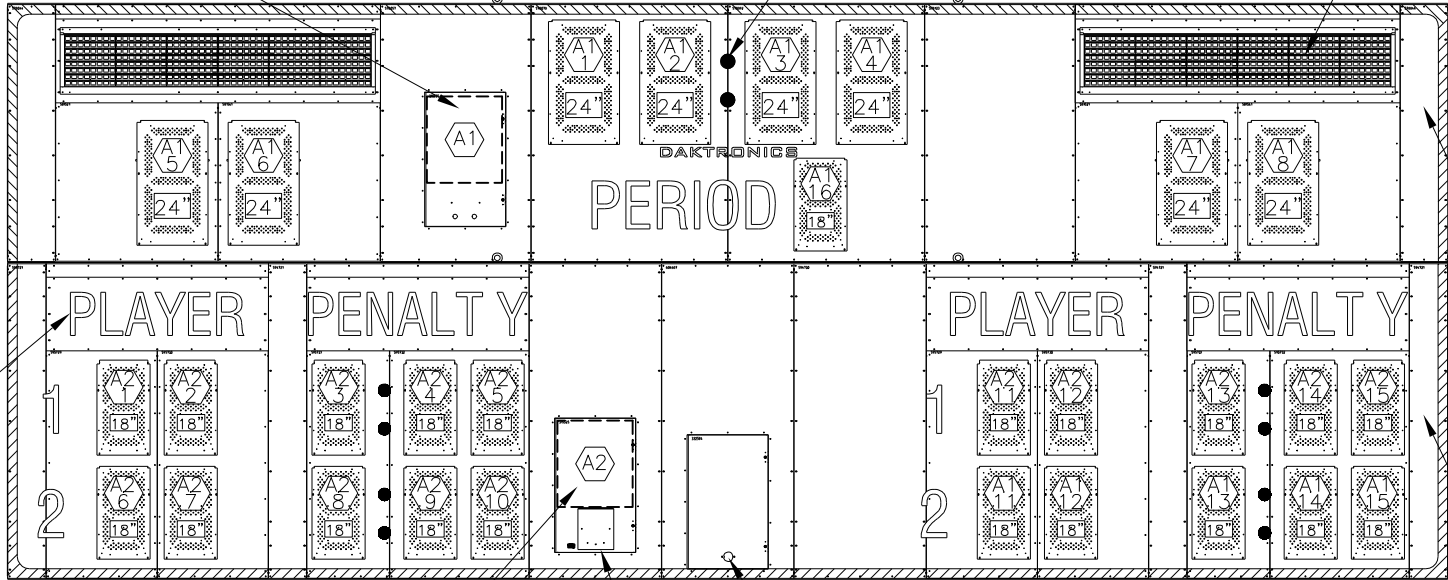
SEE DETAIL A
(MASTER DRIVER &
KNOCKOUT FOR 1/2"
CONDUIT)

MS-2009-11/-21 W/ TNMC

OPTIONAL 3" LED COLON/DECIMAL

OPTIONAL TNMCS
8x48-34mm

OPTIONAL ELECTRONIC
CAPTIONS
8x32-34mm



SEE DETAIL B
(SLAVE DRIVER)

OPTIONAL HORN

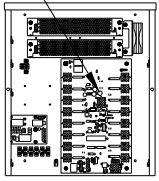
OPTIONAL RADIO

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

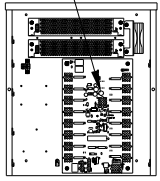
ENCLOSED 16 COLUMN SLAVE LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL.)

NOTES:

- = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT.
- = DIGIT SIZE
- = SEGMENT DESIGNATIONS



DETAIL: A
x2 SCALE



DETAIL: B
x2 SCALE

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DAKTRONICS, INC. BROOKINGS, SD 57006

REV.	DATE	DESCRIPTION	BY	APPR.
01	11 NOV 08	FIXED PWR CHART	KZB	
02	10 OCT 09	UPDATED TNMC REMOVE POWER CHART	KZB	
03	20 NOV 09	UPDATED TNMCS TO NEWER STYLE	EJS	

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PROJ: OUTDOOR LED SCOREBOARDS
 DAKTRONICS, INC. BROOKINGS, SD 57006

TITLE: SCHEMATIC; 3 DRYR, TNMC, G4

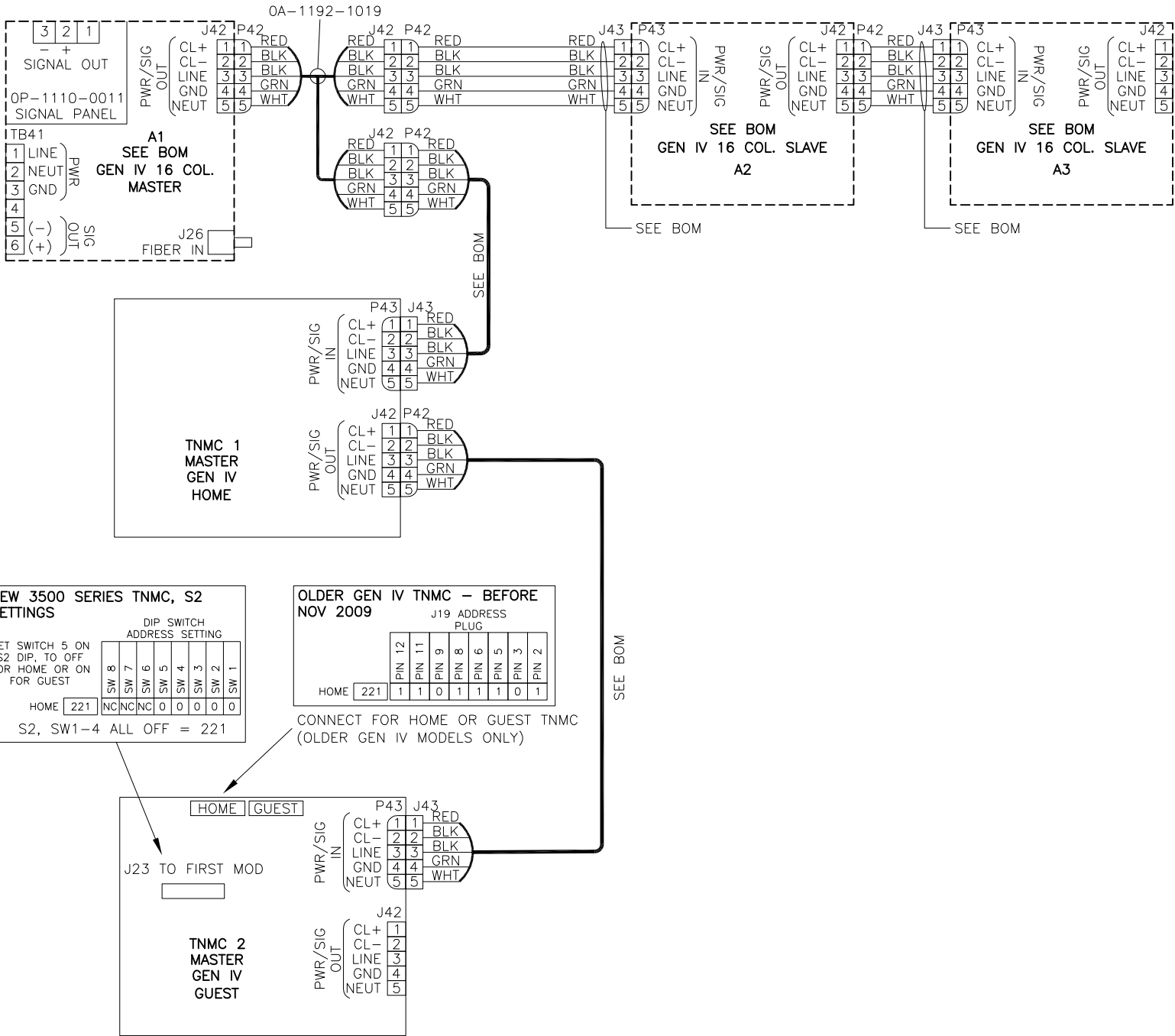
DES. BY: KBIERBA DRAWN BY: KBIERBA

DATE: 11 NOV 08

REVISION 03

APPR. BY: KBIERBA

SCALE: 1407-E03A-751690



01	24 FEB 09	ADDED BACKLIT CAPTION
02	29 JUL 09	UPDATED BLOCKS
03	10 OCT 09	UPDATED TNMCS
04	20 NOV 09	UPDATED TNMCS TO NEWER STYLE
05	25 AUG 11	UPDATES NOTES SECTION

DAKTRONICS, INC.
BROOKINGS, SD 57006

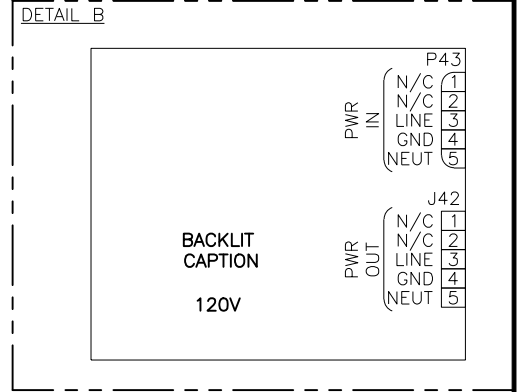
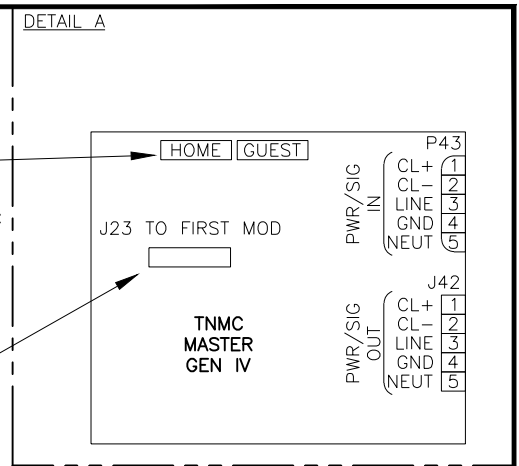
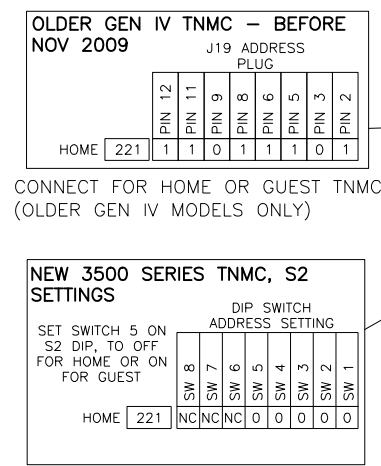
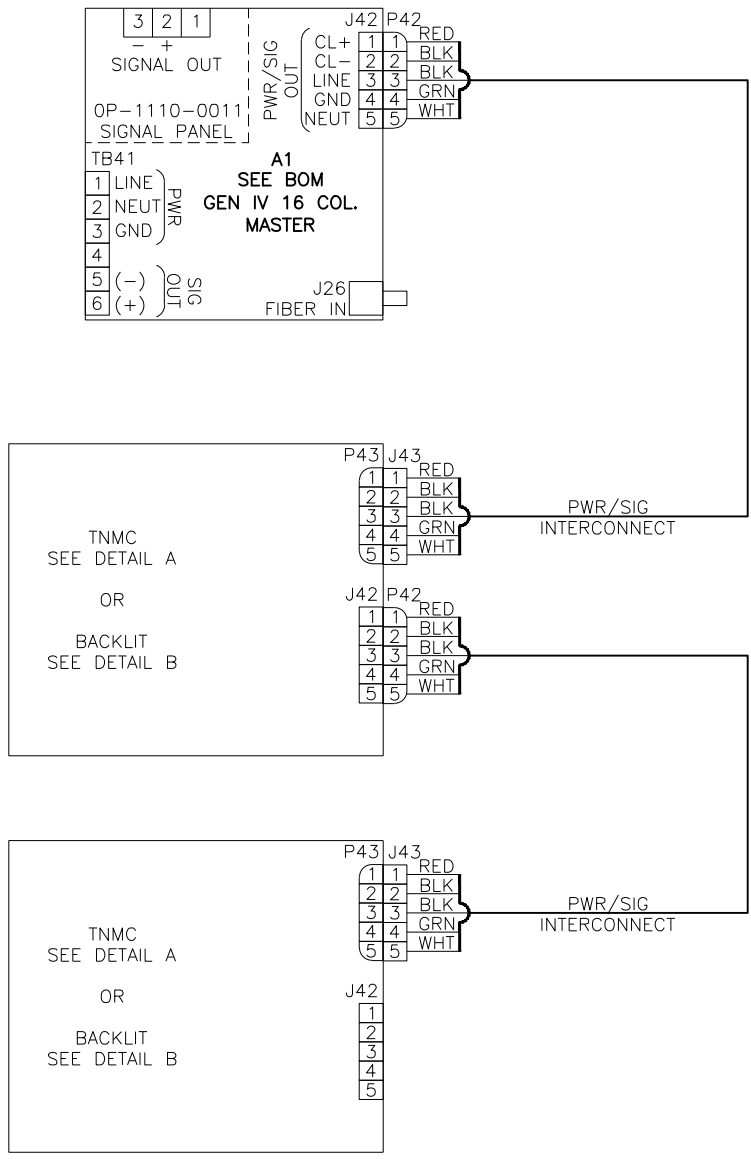
DO NOT SCALE DRAWING

PROJ: OUTDOOR LED SCOREBOARDS
TITLE: SCHEMATIC; 1 DRYR, TNMG, GEN IV
DESIGN: KBIERBA
SCALE: _____

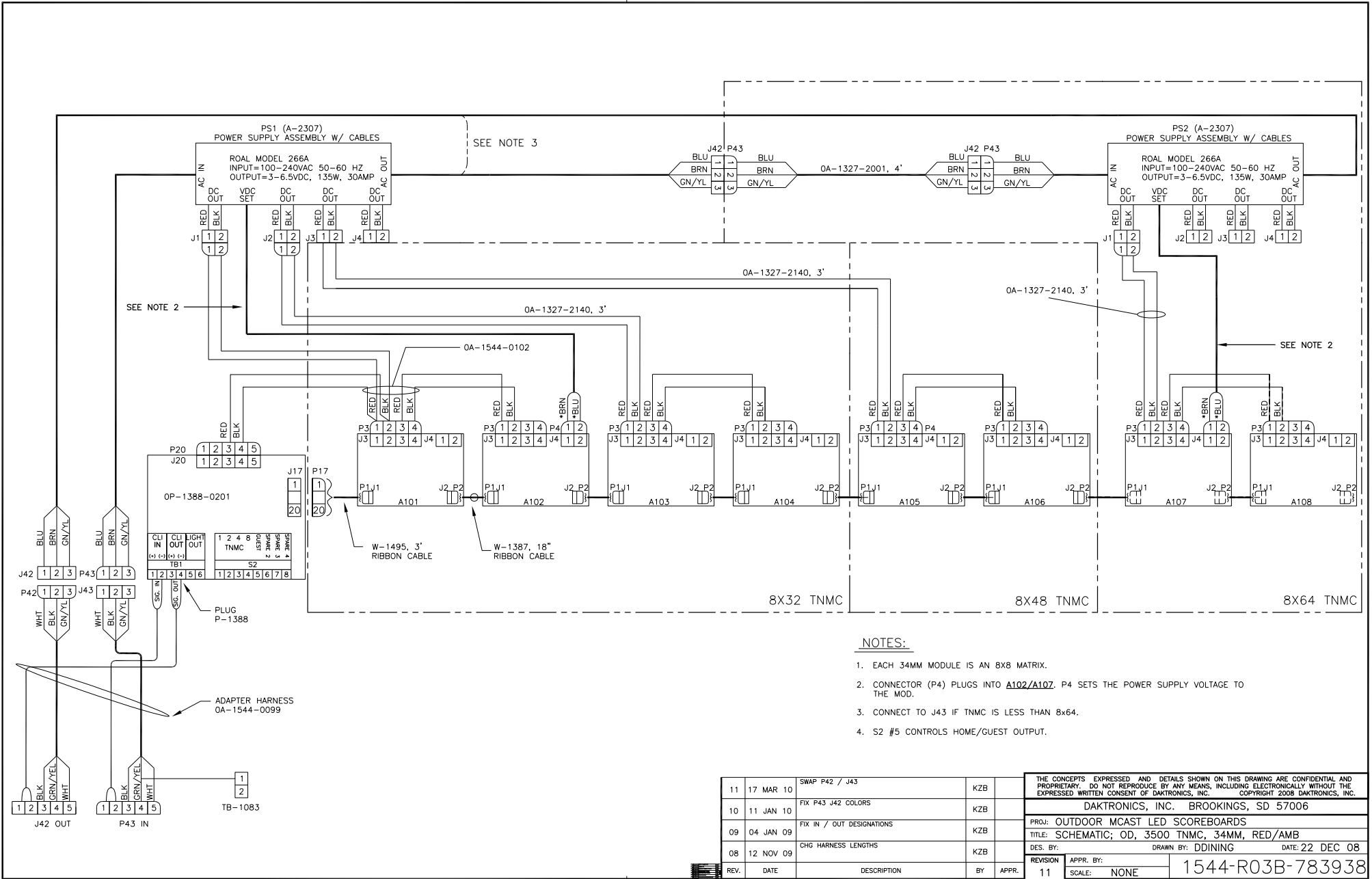
SHEET _____ REV 05 P1407 JOB NO: _____ DATE: 11 NOV 08
FUNC-TYPE-SIZE: E-03-A

752372

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-FOR ADDRESS/PWR SPECS SEE DWG IN PACKET
-SEE HARNESS STAGE DWG FOR PWR/SIG HARNESS LENGTH & PART NUMBERS



SEE NOTE 3

SEE NOTE 2

SEE NOTE 2

NOTES:

1. EACH 34MM MODULE IS AN 8X8 MATRIX.
2. CONNECTOR (P4) PLUGS INTO A102/A107. P4 SETS THE POWER SUPPLY VOLTAGE TO THE MOD.
3. CONNECT TO J43 IF TNMC IS LESS THAN 8x64.
4. S2 #5 CONTROLS HOME/GUEST OUTPUT.

REV.	DATE	DESCRIPTION	BY	APPR.
11	17 MAR 10	SWAP P42 / J43	KZB	
10	11 JAN 10	FIX P43 J42 COLORS	KZB	
09	04 JAN 09	FIX IN / OUT DESIGNATIONS	KZB	
08	12 NOV 09	CHG HARNESS LENGTHS	KZB	

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DAKTRONICS, INC. BROOKINGS, SD 57006

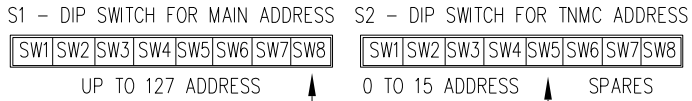
PROJ: OUTDOOR MCAST LED SCOREBOARDS

TITLE: SCHEMATIC; OD, 3500 TNMC, 34MM, RED/AMB

DES. BY: DDINING DRAWN BY: DDINING DATE: 22 DEC 08

REVISION: 11 APPR. BY: SCALE: NONE 1544-R03B-783938

DRIVER_MCAST_4_COL
OP-1388-0201



SW8 - T.O.D. ON ENABLED
SW5 - HOME OR GUEST SELECT
OFF = HOME
ON = GUEST

J24 LIGHT SENSOR

PIN	FUNCTION
1	LIGHT_IN-P
2	LIGHT_IN-N
3	+5V-P
4	GND-N
5	GND-N
6	232_IN-P

TB1 SIGNAL

PIN	FUNCTION
1	SIG-P
2	SIG-N
3	CLOUT-P
4	CLOUT-N
5	LIGHT_0-P
6	LIGHT_0-N
7	232_IN-P
8	GND-N

J30 RADIO (MAIN)

PIN	FUNCTION
1	+UNREG-P
2	GND-N
3	GND-N
4	INPUT-P

J31 RADIO (AUX)

PIN	FUNCTION
1	+UNREG-P
2	GND-N
3	GND-N
4	INPUT-P

J29 SW INPUTS

PIN	FUNCTION
1	SW_IN0-P
2	GND-N
3	SW_IN1-P
4	GND-N
5	SW_IN2-P
6	GND-N
7	SW_IN3-P
8	GND-N

J19 PROGRAM JACK

PIN	FUNCTION
1	PGC
2	/MCLR
3	N/C
4	GND-N
5	PGD
6	GND-N
7	PGM
8	+5V-P
9	N/C
10	N/C

J25 (AUX 5)

PIN	FUNCTION
1	120VAC SW P
2	120VAC SW N

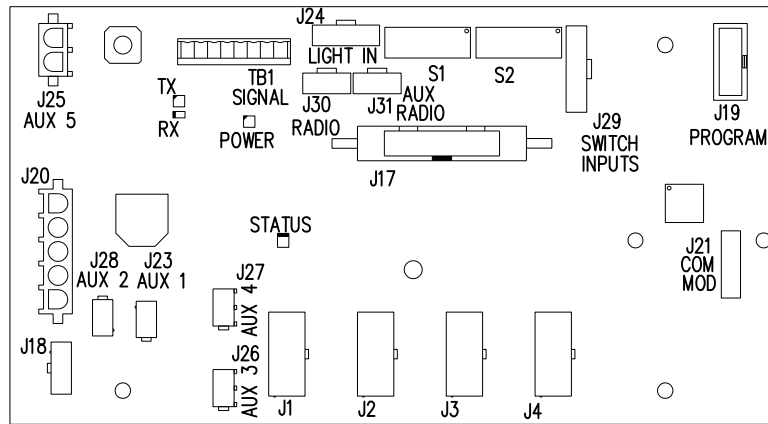
120VAC SWITCHED
AUX OUT
(1.25A MAX)

J20 POWER IN

PIN	FUNCTION
5	+VDD-P
4	GND-N
3	XFMR-CT
2	GND-N
1	+VBB-P

J18 PWR OUT

PIN	FUNCTION
1	20VDC
2	10VDC
3	GND-N



J21 COM MOD HEADER

FUNCTION	PIN	PIN	FUNCTION
N/C	A	1	N/C
N/C	B	2	MOD_TX
N/C	C	3	MOD_RX
GND-N	D	4	GND-N
GND-N	E	5	GND-N
+5V	F	6	N/C
N/C	H	7	+5V

J23,28 (AUX 1 - 2)

PIN	FUNCTION
1	SWITCHED AC V
2	GND-N

SECONDARY VOLTAGE
SWITCHED GND
200ma MAX

J26-27 (AUX 3 - 4)

PIN	FUNCTION
1	SWITCHED DC V
2	GND-N

AUX 3&4 MAX OUTPUT
INDOOR=2A
OUTDOOR 1.5A

J1-4 DIGITS

PIN	FUNCTION
1	SEGA-N
2	SEGB-N
3	SEGC-N
4	SEGD-N
5	SEGE-N
6	SEGF-N
7	SEGG-N
8	SEGH-N
9	+V1
10	+V2

200mA MAX / SEGMENT
12.8A MAX LOAD FOR
EVEN OR ODD COLUMNS

J17 TEAM NAME OUTPUT

FUNCTION	PIN	PIN	FUNCTION
GND4-P	11	10	ID3
RED4-P	12	9	ID2
GND3-P	13	8	GND-N
MTRX_CLK	14	7	GND-N
RED3-P	15	6	GRN2-P
RED2-P	16	5	GND-N
MTRX_DIM	17	4	GND-N
MTRX_LT	18	3	GND-N
GND1-P	19	2	ID1
RED1-P	20	1	ID0

NOTES:

- GREEN POWER LED INDICATES THAT THE DRIVER HAS POWER.
- RED RX LED IS ON WHEN INPUT SIGNAL IS CONNECTED BUT IDLE AND BLINKS WHEN DATA IS RECEIVED. IF RED RX LED IS OFF, THERE IS NO CONNECTION.
- TX LED IS ON WHEN SIGNAL IS DISCONNECTED AND OFF WHEN INPUT IS IDLE. THE TX LED BLINKS WHEN DATA IS TRANSMITTED.
- AMBER STATUS LED WILL BLINK WHEN THE DRIVER IS RUNNING.
- IF STATUS LED IS ON OR OFF CONTINUOUSLY THE MICROCONTROLLER IS NOT WORKING.
- REFER TO THE FOLLOWING DRAWINGS FOR ADDRESS AND SWITCH SETTINGS:

ADDRESS SWITCH (S1) A-328273

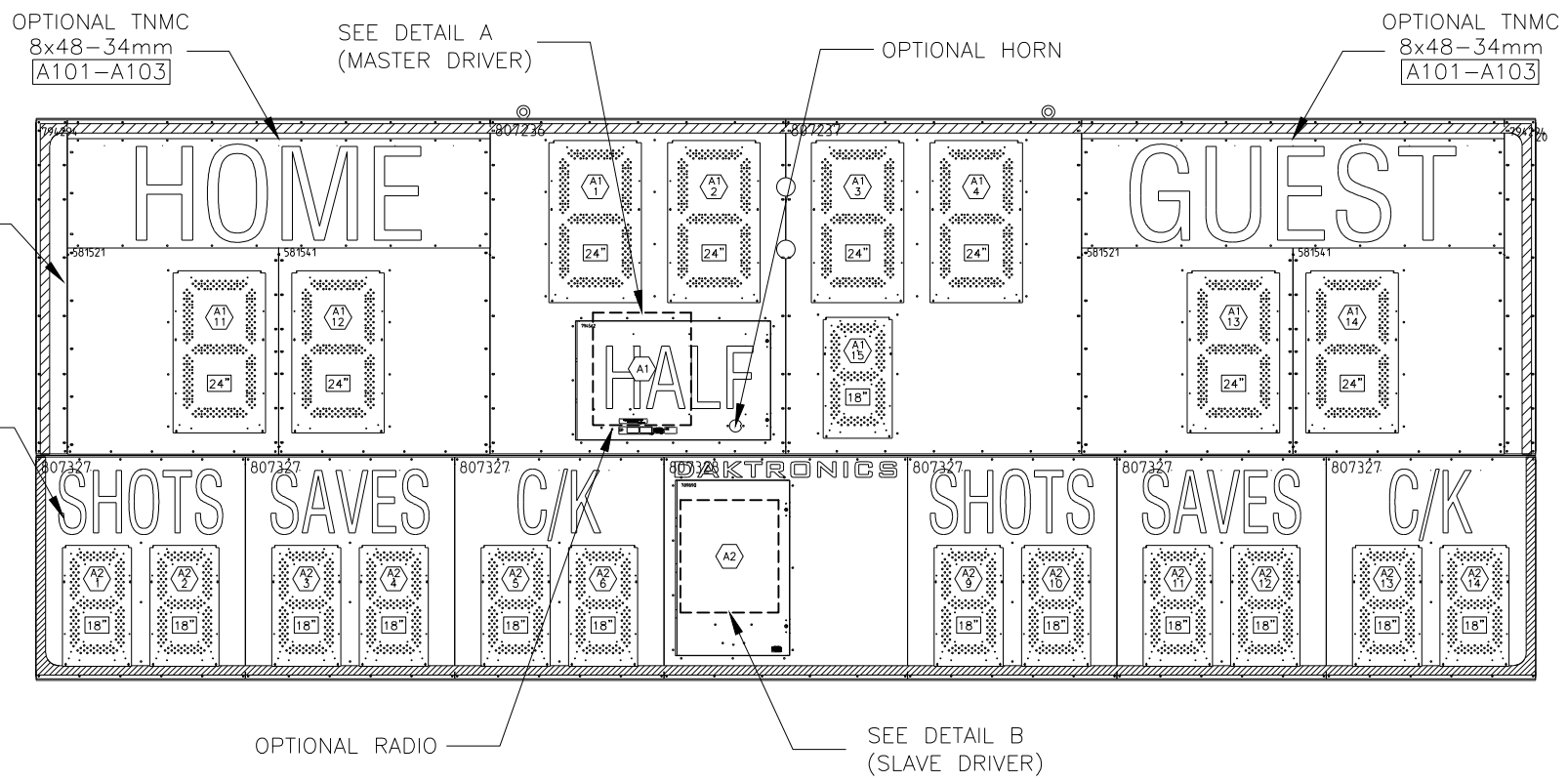
TNMC ADD SWITCH (S2) A-328274

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DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ:			
TITLE: SPECIFICATIONS; DRIVER, MCAST, 4 COL			
DES. BY: KKASKI		DRAWN BY: DULSCHM	
DATE: 23 JAN 09			
REVISION	APPR. BY:	1388-E07A-793970	
01	SCALE: 1 = 2		

REV.	DATE	DESCRIPTION	BY	APPR.
01	21 SEP 09	UPDATED SWITCH DRAWING NUMBERS	DJU	

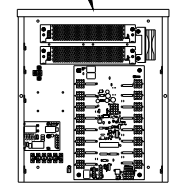
REV 01 DATE: 25 OCT 11 SWITCHED A1 AND A2 TO MATCH SCHEMATIC FIXED "MASTER" DRIVER DETAIL BY: KDD

SO-2011-11/-21, G4

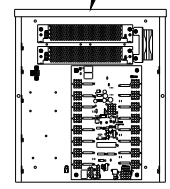


ENCLOSED 16 COLUMN MASTER LED DRIVER AND POWER/SIGNAL ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL)

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





DETAIL: A
(1.5 X SCALE)



DETAIL: B
(1.5 X SCALE)

NOTES:

-  = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRE TO THAT DIGIT
-  = DIGIT SIZE



DAKTRONICS, INC.
BROOKINGS, SD 57006

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PROJ: OUTDOOR LED SCOREBOARDS
TITLE: COMPONENT LOCATION: SO-2011-11/-21, G4
DESIGN: DOPPELT
DRAWN: MKURITZ
DATE: 19 JUN 09
SCALE: 1 = 30

SHEET 01 REV 01 JOB NO: P1407 FUNC-TYPE-SIZE: E-10-A 863378

REV.	DATE	DESCRIPTION	BY	APPR.

00

SCALE: 1=30

1407-E10A-863667

REVISION APPR. BY: DATE: 22 JUN 09

DES. BY: DOPPELT DRAWN BY: MKURTZ

TITLE: COMPONENT LOCATION: MS-2918-11/-21, G4

PROJ: OUTDOOR LED SCOREBOARDS

DAKTRONICS, INC. BROOKINGS, SD 57006

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MS-2918-11/-21, G4

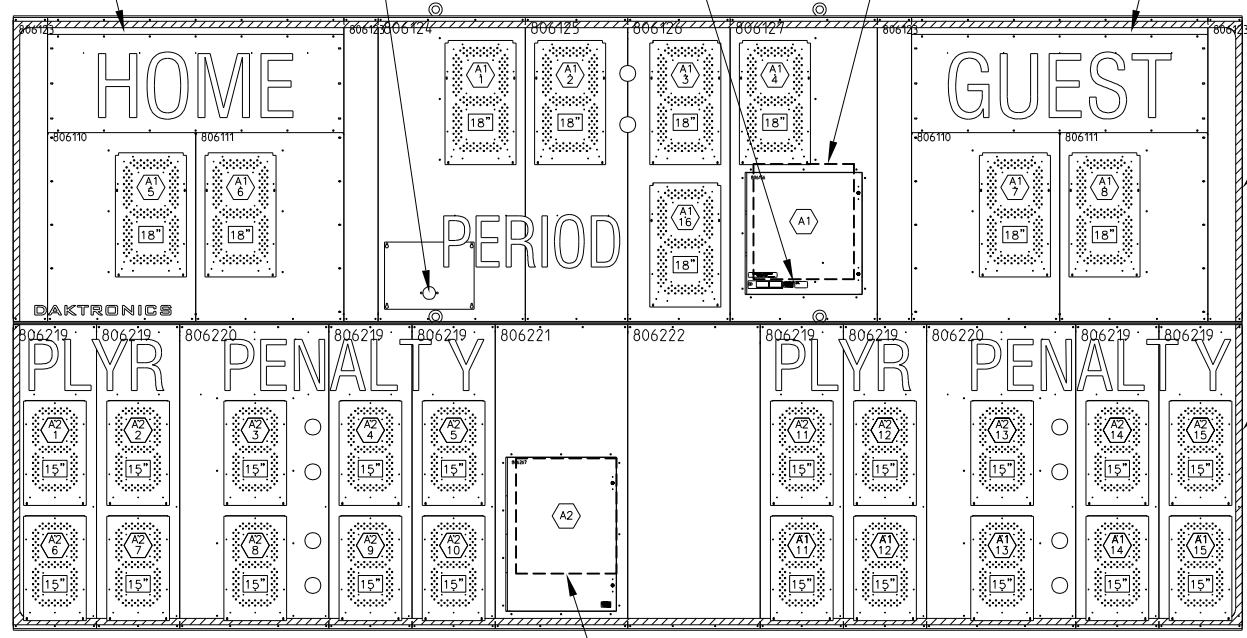
OPTIONAL TNMC 8x32-34mm [A101-A102]

OPTIONAL HORN

OPTIONAL RADIO

SEE DETAIL A (MASTER DRIVER)

OPTIONAL TNMC 8x32-34mm [A101-A102]



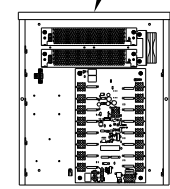
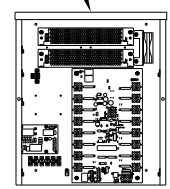
MASTER SECTION

SLAVE SECTION

SEE DETAIL B (SLAVE DRIVER)

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. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL)



DETAIL: A
(1.5 X SCALE)

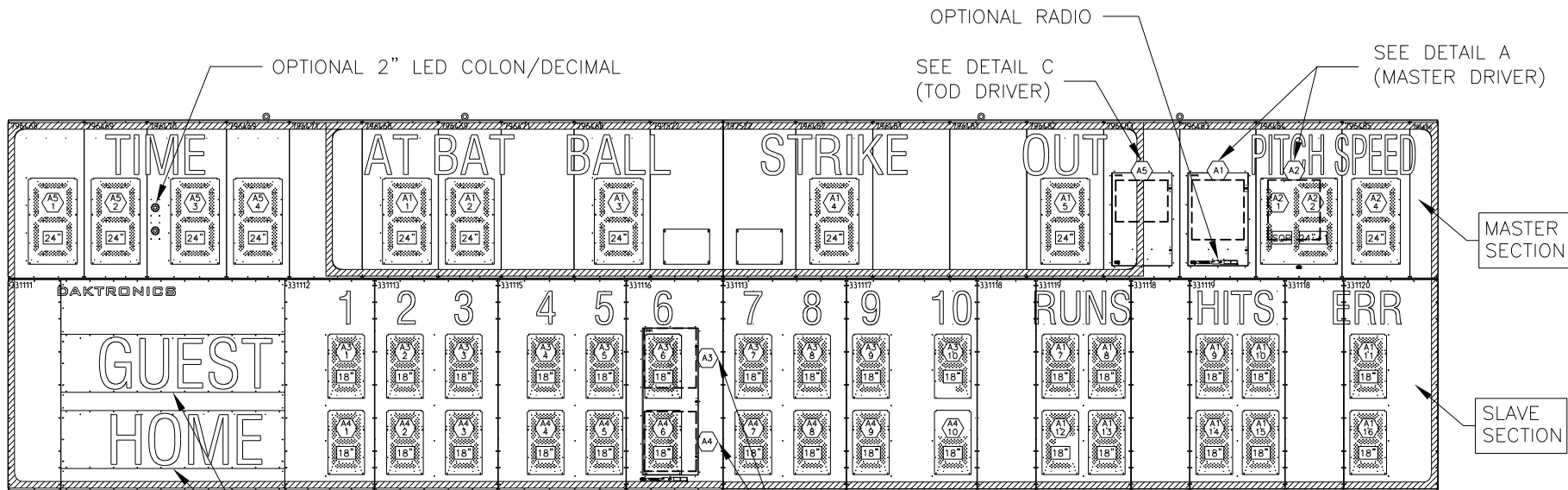
DETAIL: B
(1.5 X SCALE)

NOTES:

- [A1 1] = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT
- [24"] = DIGIT SIZE

REV. DATE DESCRIPTION BY APPR.



BA-2013-11/-21, G4



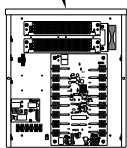
OPTIONAL TNMC
8x48-34mm
A101-A103

SEE DETAIL B
(SLAVE DRIVER)

NOTES:

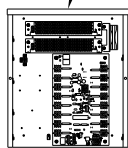
-  = LED DRIVER NUMBER & LED DRIVER CONNECTOR WIRED TO THAT DIGIT
-  = DIGIT SIZE

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



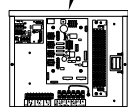
DETAIL: A
(2 X SCALE)

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



DETAIL: B
(2 X SCALE)

ENCLOSED 4 COLUMN MASC DRIVER ENCLOSURE @1. (THE COVER HAS BEEN REMOVED TO SHOW THE ENCLOSURE COMPONENT DETAIL)



DETAIL: C
(2 X SCALE)

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PROJ: OUTDOOR LED SCOREBOARDS
TITLE: COMPONENT LOCATION: BA-2013-11/-21, G4
DES. BY: DOPPELT
DRAWN BY: MKURTZ
DATE: 22 JUN 09

REVISION APPR. BY: P1407-E10A-864005
SCALE: 1=50

DAKTRONICS, INC. BROOKINGS, SD 57006

OLDER GEN IV TNMC - BEFORE NOV 2009

J19 ADDRESS PLUG

HOME	221	1	1	0	1	1	1	1	0	1	1	0	1
		PN 12	PN 11	PN 10	PN 9	PN 8	PN 7	PN 6	PN 5	PN 4	PN 3	PN 2	PN 1

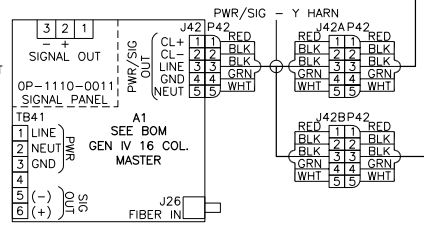
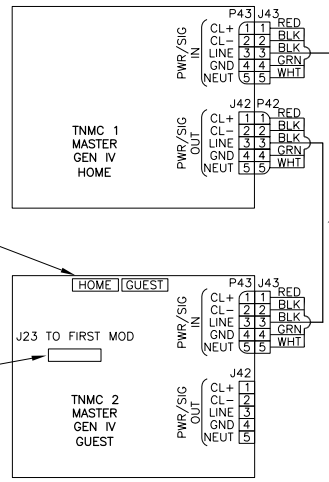
CONNECT FOR HOME OR GUEST TNMC (OLDER GEN IV MODELS ONLY)

NEW 3500 SERIES TNMC, S2 SETTINGS

DIP SWITCH ADDRESS SETTING

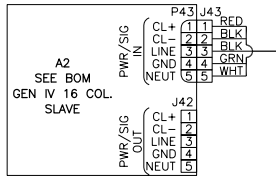
SET SWITCH 5 ON S2 DIP, TO OFF FOR HOME OR ON FOR GUEST

HOME	221	NC	NC	NC	0	0	0	0	0	0	0	0	1
		SW 8	SW 7	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1	SW 0	SW 9	SW 10	SW 11



ROLLOUT HARNESS IS THE FULL HARNESS FOR THE TOP SECTION. INDIVIDUAL HARNESS ASSEMBLY NUMBERS ARE STILL LISTED IN CASE OF AN EMERGENCY. SEE PACKET FOR PART NUMBERS.

ROLLOUT HARNESS IS THE FULL HARNESS FOR THE BOTTOM SECTION. INDIVIDUAL HARNESS ASSEMBLY NUMBERS ARE STILL LISTED IN CASE OF AN EMERGENCY. SEE PACKET FOR PART NUMBERS.



120 OR 240VAC SCHEMATIC

-SEE DWG-418370 FOR ADDRESS/PWR SPECS
-SEE HARNESS STAGE DWG FOR PWR/SIG HARNESS LENGTH & PART NUMBERS

REV.	DATE	DESCRIPTION	BY	APPR.
03	20 NOV 09	UPDATED TNMCS TO NEWER STYLE.	EJS	
02	03 NOV 09	CORRECTED REFERENCE DWG	KZB	
01	29 JUL 09	UPDATED BLOCKS	KZB	

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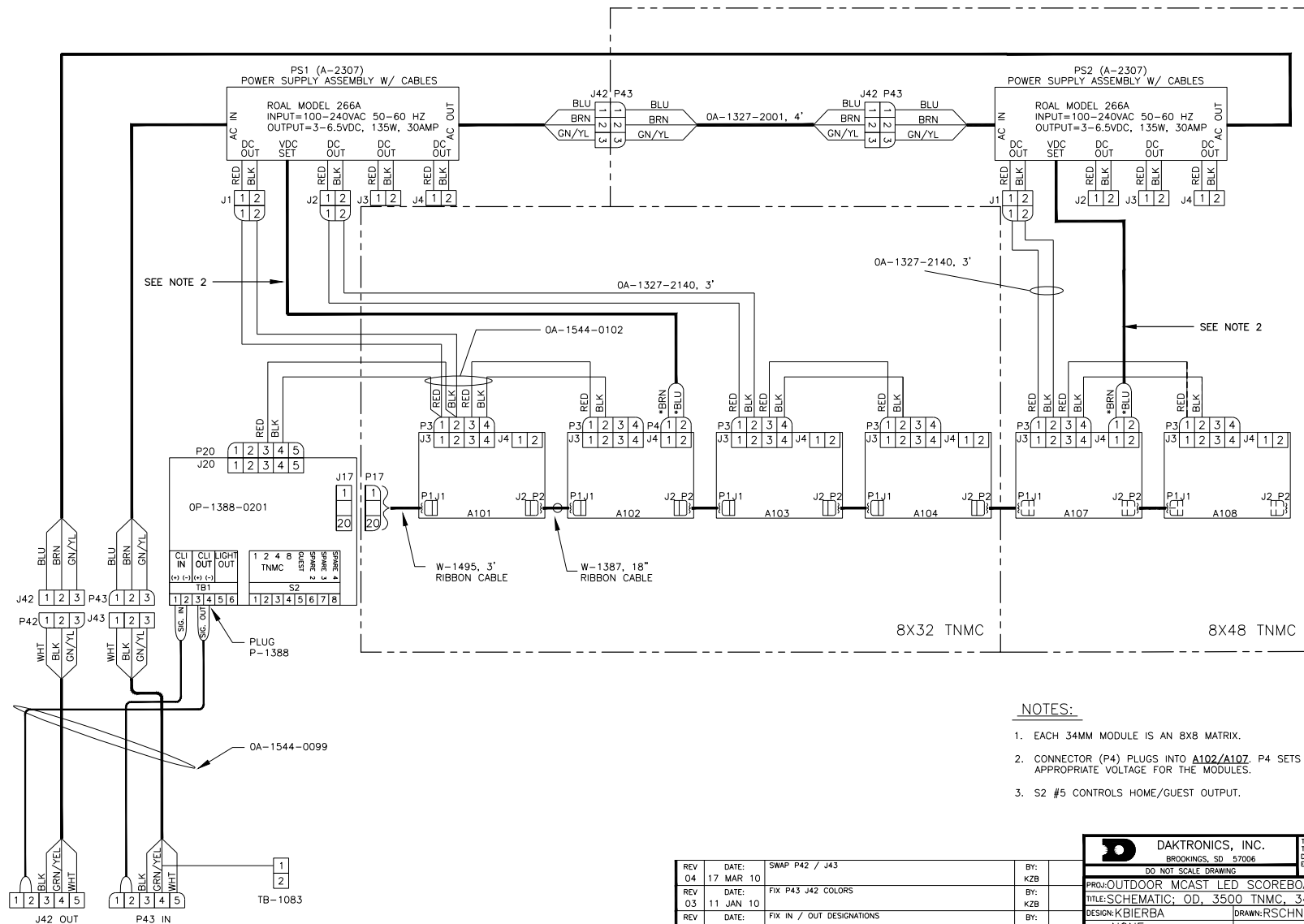
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

TITLE: SCHEMATIC; 2 DRVR W/TNMC, MST TOP, SLV BTM

DES. BY: DRAWN BY: KBIERBA DATE: 13 JUL 09

REVISION APPR. BY: SCALE: NONE 1407-R03B-876548



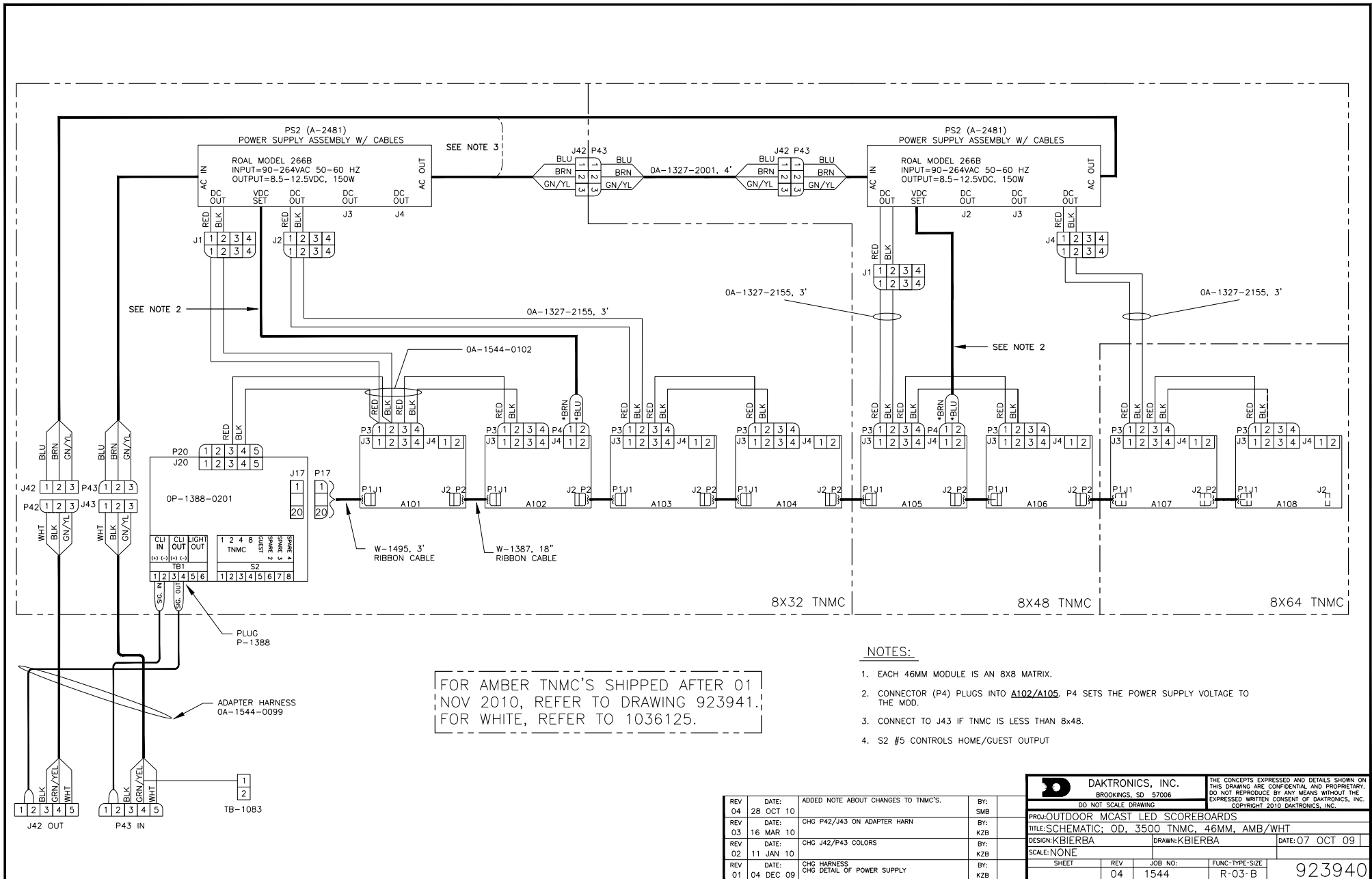
SEE NOTE 2

SEE NOTE 2

NOTES:

1. EACH 34MM MODULE IS AN 8X8 MATRIX.
2. CONNECTOR (P4) PLUGS INTO A102/A107. P4 SETS THE POWER SUPPLY TO THE APPROPRIATE VOLTAGE FOR THE MODULES.
3. S2 #5 CONTROLS HOME/GUEST OUTPUT.

REV 04	DATE: 17 MAR 10	SWAP P42 / J43	BY: KZB	DAKTRONICS, INC. BROOKINGS, SD 57006 DO NOT SCALE DRAWING	THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2010 DAKTRONICS, INC.
REV 03	DATE: 11 JAN 10	FIX P43 J42 COLORS	BY: KZB		
REV 02	DATE: 04 JAN 09	FIX IN / OUT DESIGNATIONS	BY: KZB	PROJ: OUTDOOR MCAST LED SCOREBOARDS TITLE: SCHEMATIC; OD, 3500 TNMC, 34MM, WHT DESIGN: KBIERBA DRAWN: RSCHNEI DATE: 19 AUG 09	
REV 01	DATE: 29 OCT 09	ADDED NOTE #3, P-1388	BY: KZB	SCALE: NONE SHEET 05 REV 05 JOB NO: P1544 FLUNC-TYPE-SIZE R-03-B	906385



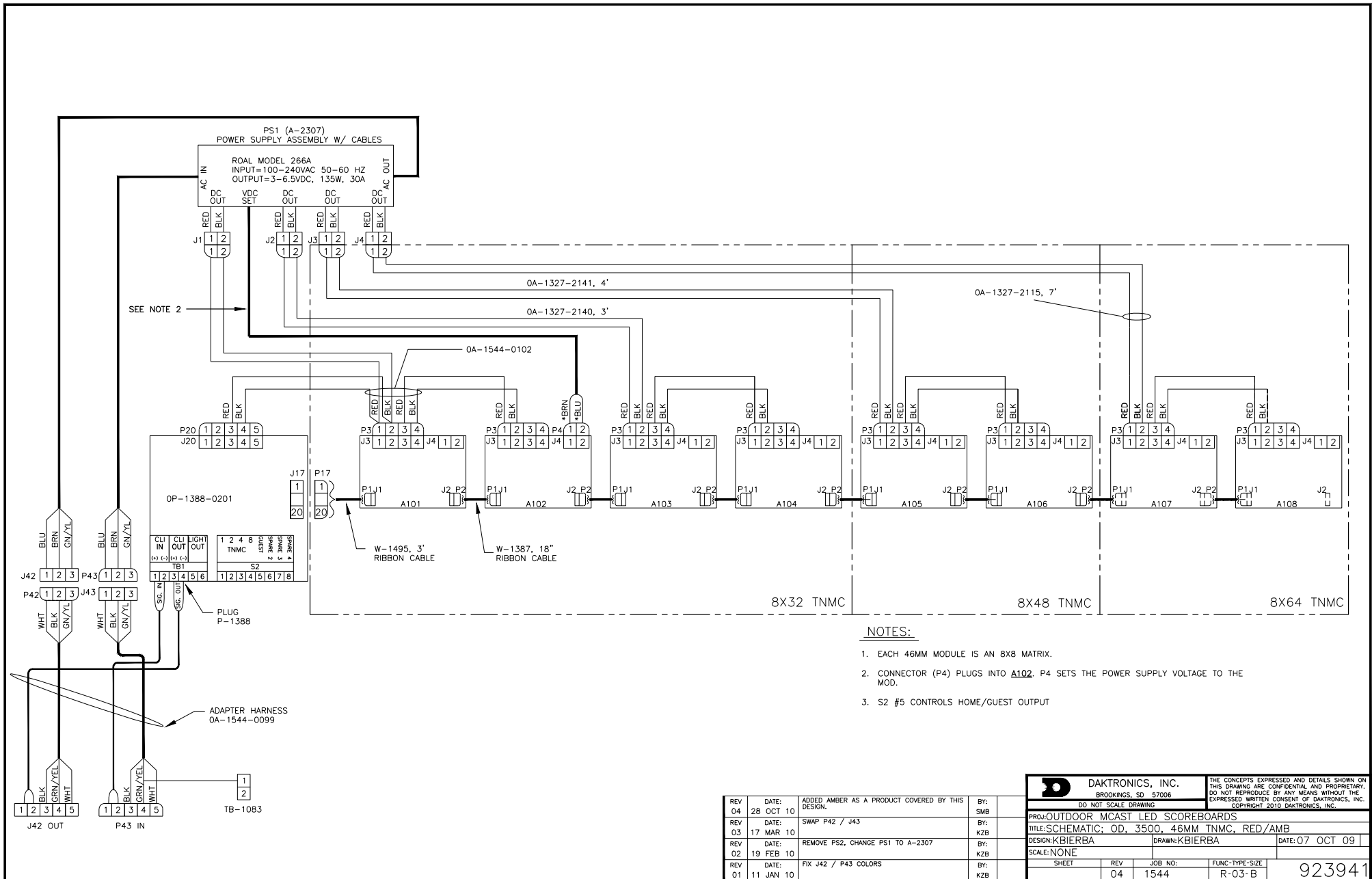
FOR AMBER TNMC'S SHIPPED AFTER 01 NOV 2010, REFER TO DRAWING 923941. FOR WHITE, REFER TO 1036125.

NOTES:

1. EACH 46MM MODULE IS AN 8X8 MATRIX.
2. CONNECTOR (P4) PLUGS INTO A102/A105. P4 SETS THE POWER SUPPLY VOLTAGE TO THE MOD.
3. CONNECT TO J43 IF TNMC IS LESS THAN 8x48.
4. S2 #5 CONTROLS HOME/GUEST OUTPUT

REV	DATE	ADDED NOTE ABOUT CHANGES TO TNMC'S.	BY:
04	28 OCT 10		SMB
03	16 MAR 10	CHG P42/J43 ON ADAPTER HARN	KZB
02	11 JAN 10	CHG J42/P43 COLORS	KZB
01	04 DEC 09	CHG HARNESS CHG DETAIL OF POWER SUPPLY	KZB

DAKTRONICS, INC. BROOKINGS, SD 57006		THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2010 DAKTRONICS, INC.
DO NOT SCALE DRAWING		
PROJ: OUTDOOR MCAST LED SCOREBOARDS		
TITLE: SCHEMATIC; OD, 3500 TNMC, 46MM, AMB/WHT		
DESIGN: KBIERBA	DRAWN: KBIERBA	DATE: 07 OCT 09
SCALE: NONE		
SHEET	REV	JOB NO.
04	04	1544
FLUNC-TYPE-SIZE		
R-03-B		
923940		



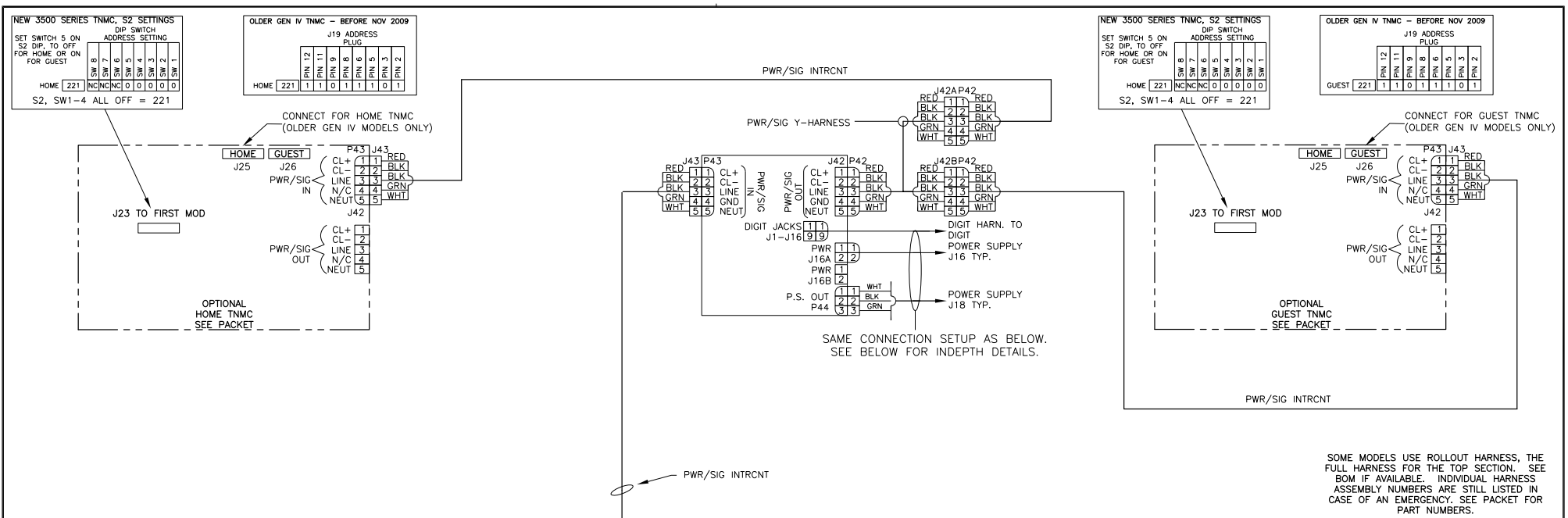
NOTES:

1. EACH 46MM MODULE IS AN 8X8 MATRIX.
2. CONNECTOR (P4) PLUGS INTO A102. P4 SETS THE POWER SUPPLY VOLTAGE TO THE MOD.
3. S2 #5 CONTROLS HOME/GUEST OUTPUT

REV 04	DATE: 28 OCT 10	ADDED AMBER AS A PRODUCT COVERED BY THIS DESIGN.	BY: SMB
REV 03	DATE: 17 MAR 10	SWAP P42 / J43	BY: KZB
REV 02	DATE: 19 FEB 10	REMOVE PS2, CHANGE PS1 TO A-2307	BY: KZB
REV 01	DATE: 11 JAN 10	FIX J42 / P43 COLORS	BY: KZB

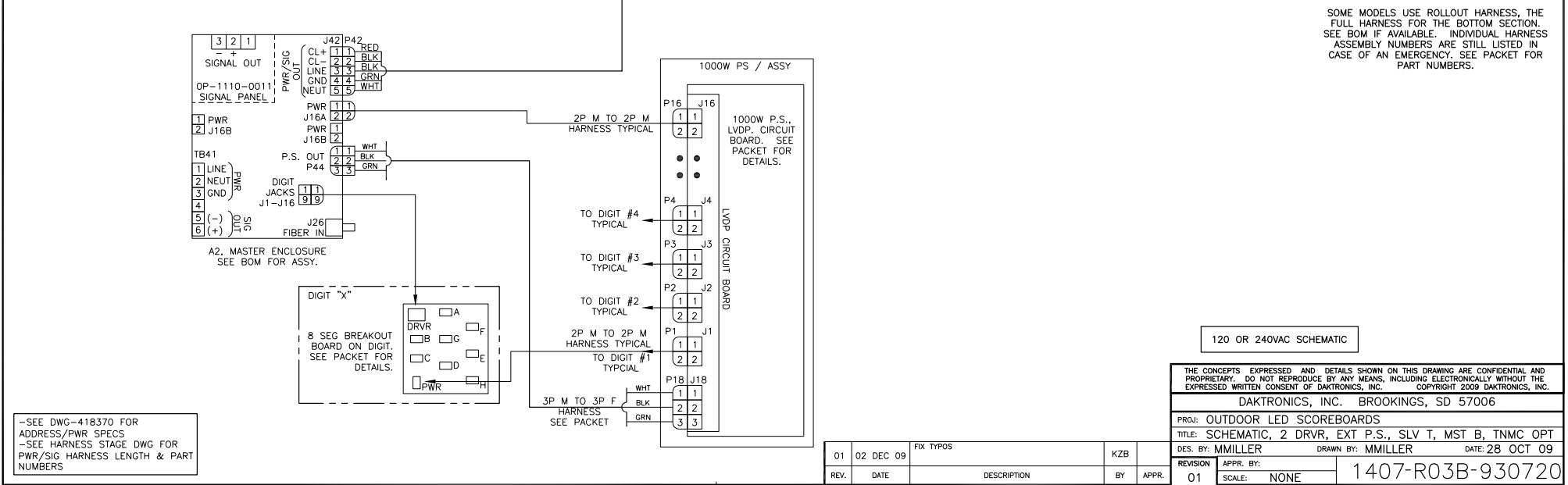
<p>DAKTRONICS, INC. BROOKINGS, SD 57006</p>	<p>DO NOT SCALE DRAWING</p>	
	<p>PROJ: OUTDOOR MCAST LED SCOREBOARDS</p>	
<p>TITLE: SCHEMATIC; OD, 3500, 46MM TNMC, RED/AMB</p>		
<p>DESIGN: KBIERBA</p>		<p>DATE: 07 OCT 09</p>
<p>SCALE: NONE</p>		
SHEET	REV	JOB NO.
04	04	1544
<p>FLUNC-TYPE-SIZE</p>		<p>R-03-B</p>
<p>923941</p>		

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SOME MODELS USE ROLLOUT HARNESS, THE FULL HARNESS FOR THE TOP SECTION. SEE BOM IF AVAILABLE. INDIVIDUAL HARNESS ASSEMBLY NUMBERS ARE STILL LISTED IN CASE OF AN EMERGENCY. SEE PACKET FOR PART NUMBERS.

SOME MODELS USE ROLLOUT HARNESS, THE FULL HARNESS FOR THE BOTTOM SECTION. SEE BOM IF AVAILABLE. INDIVIDUAL HARNESS ASSEMBLY NUMBERS ARE STILL LISTED IN CASE OF AN EMERGENCY. SEE PACKET FOR PART NUMBERS.



120 OR 240VAC SCHEMATIC

-SEE DWG-418370 FOR ADDRESS/PWR SPECS
-SEE HARNESS STAGE DWG FOR PWR/SIG HARNESS LENGTH & PART NUMBERS

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

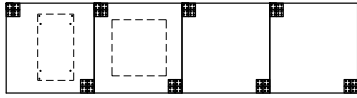
TITLE: SCHEMATIC, 2 DRV, EXT P.S., SLV T, MST B, TNMC OPT

DES. BY: MMILLER DRAWN BY: MMILLER DATE: 28 OCT 09

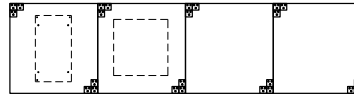
REVISION	APPR. BY:	SCALE:	1407-R03B-930720
01		NONE	

REV.	DATE	DESCRIPTION	BY	APPR.
01	02 DEC 09	FIX TYPOS	KZB	

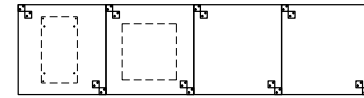
8x32- 34MM AMBER LED TNMC



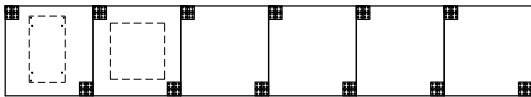
8x32- 34MM RED LED TNMC



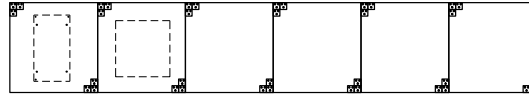
8x32- 34MM WHITE LED TNMC



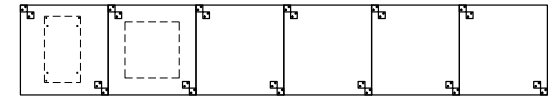
8x48- 34MM AMBER LED TNMC



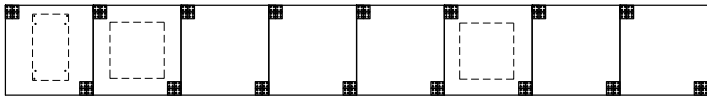
8x48- 34MM RED LED TNMC



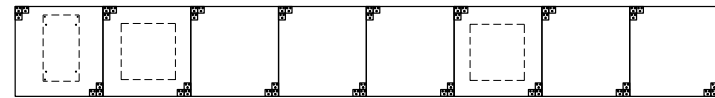
8x48- 34MM WHITE LED TNMC



8x64- 34MM AMBER LED TNMC



8x64- 34MM RED LED TNMC



AMBER LED TNMC MODULE



RED LED TNMC MODULE




WHITE LED TNMC MODULE



DRIVER



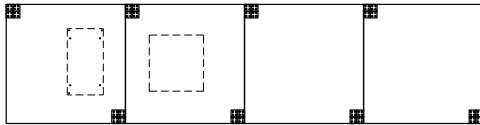
POWER SUPPLY

 DAKTRONICS, INC. BROOKINGS, SD 57006 DO NOT SCALE DRAWING		THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2010 DAKTRONICS, INC.				
		PROJ: OUTDOOR LED SCOREBOARDS TITLE: COMPONENT LOC.: 34MM RED/AMB/WHT LED TNMC G4 DESIGN: KDRAGT DRAWN: KOLSON DATE: 18 FEB 10				
SCALE: 1=15		SHEET	REV 01	JOB NO. P1544	FLUNC-TYPE-SIZE R-08-B	975100

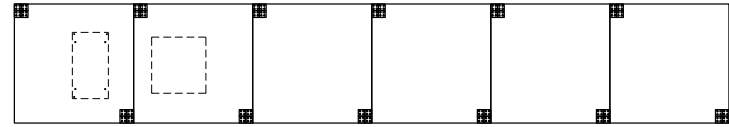
REV	DATE	MADE DRAWING GENERIC
01	04 NOV 10	

BY:	SAG
-----	-----

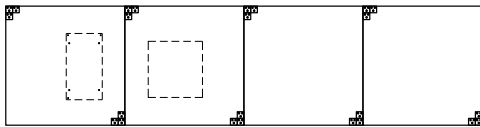
8X32- 46MM AMBER LED TNMC



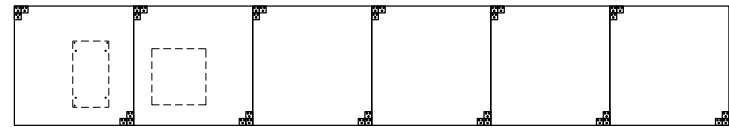
8X48- 46MM AMBER LED TNMC



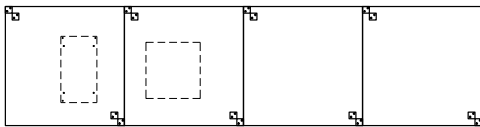
8X32- 46MM RED LED TNMC



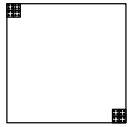
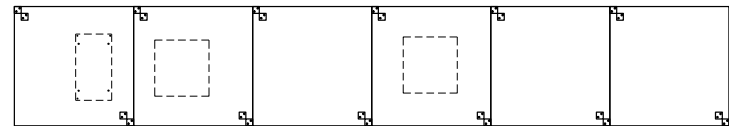
8X48- 46MM RED LED TNMC



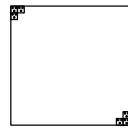
8X32- 46MM WHITE LED TNMC



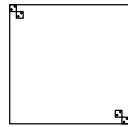
8X48- 46MM WHITE LED TNMC



AMBER LED TNMC MODULE



RED LED TNMC MODULE




WHITE LED TNMC MODULE



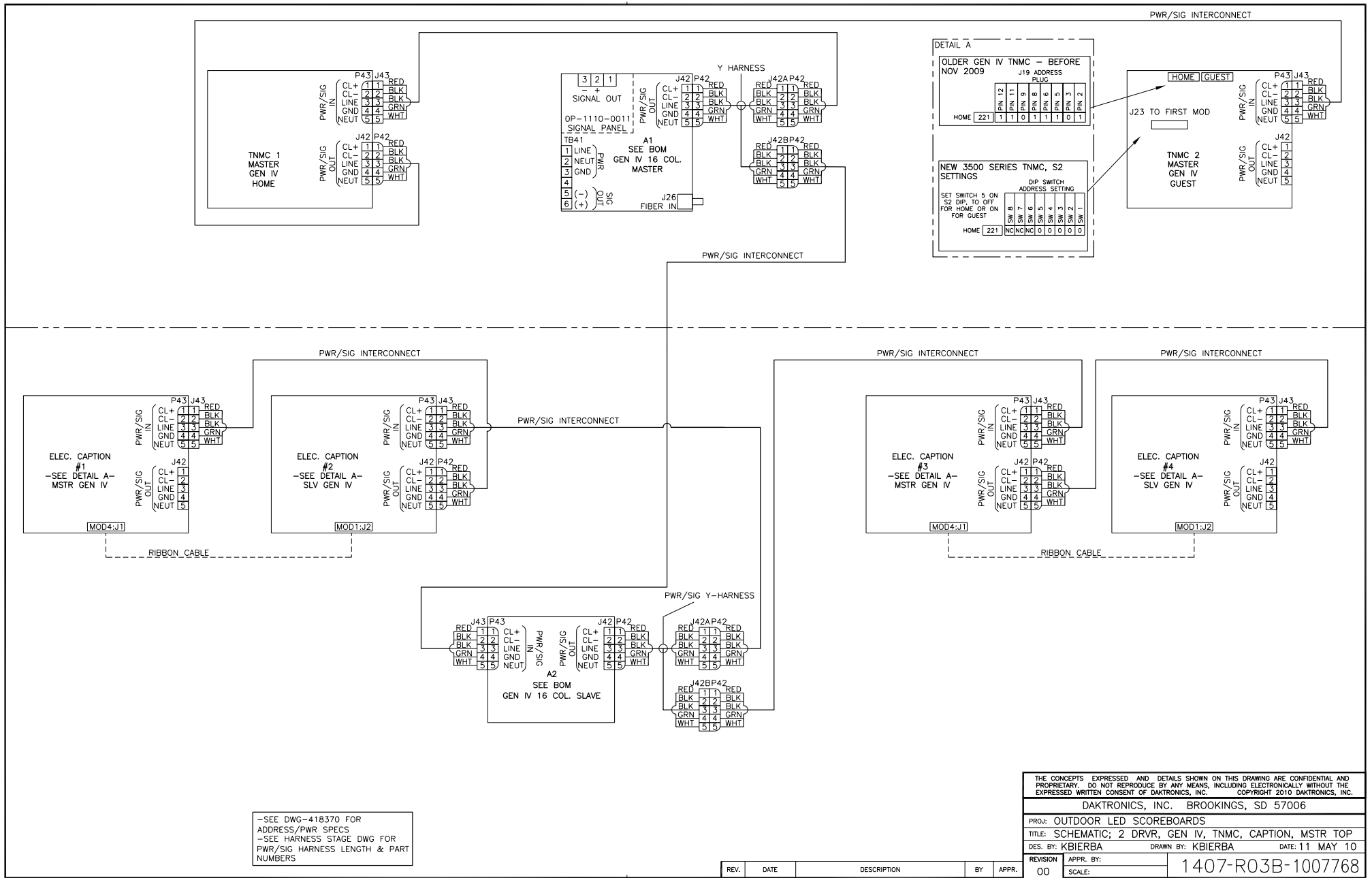
DRIVER



POWER SUPPLY

		DAKTRONICS, INC.		THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2010 DAKTRONICS, INC.	
BROOKINGS, SD 57006		DO NOT SCALE DRAWING			
PROJ: OUTDOOR LED SCOREBOARDS					
TITLE: COMPONENT LOC.: 46MM RED/AMB/WHT LED TNMC G4					
DESIGN: KDRAGT			DRAWN: KOLSON		DATE: 19 FEB 10
SCALE: 1=15					
SHEET	REV	JOB NO.	FLWC-TYPE-SIZE		
	01	P1544	R-08-B		
					975635

REV	DATE	MADE DRAWING GENERIC	BY:
01	04 NOV 10		SAG



-SEE DWG-418370 FOR ADDRESS/PWR SPECS
-SEE HARNESS STAGE DWG FOR PWR/SIG HARNESS LENGTH & PART NUMBERS

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

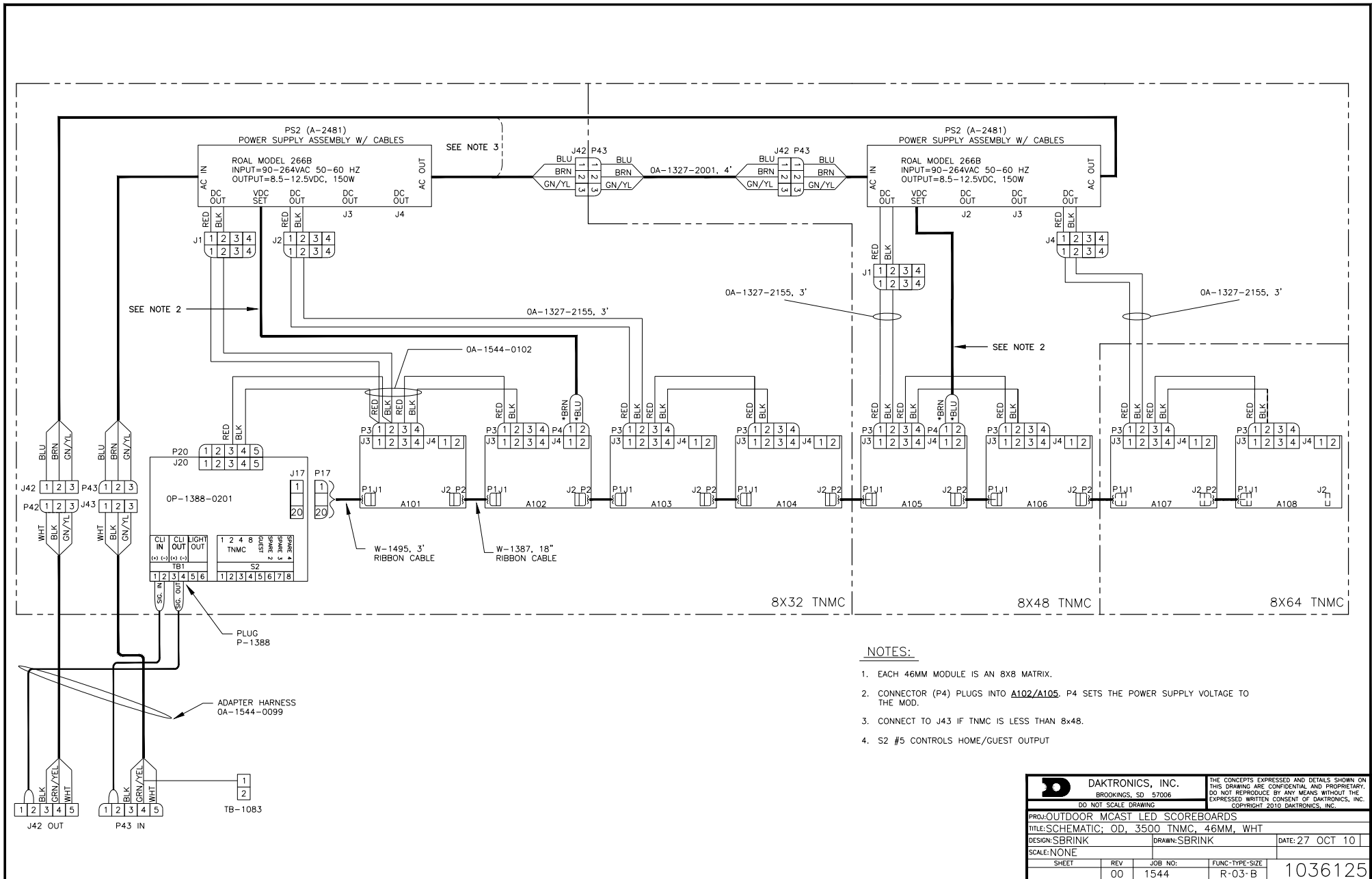
TITLE: SCHEMATIC; 2 DRVR, GEN IV, TNMC, CAPTION, MSTR TOP

DES. BY: KBIERBA DRAWN BY: KBIERBA DATE: 11 MAY 10

APPR. BY: _____

SCALE: _____

1407-R03B-1007768



NOTES:

1. EACH 46MM MODULE IS AN 8X8 MATRIX.
2. CONNECTOR (P4) PLUGS INTO A102/A105. P4 SETS THE POWER SUPPLY VOLTAGE TO THE MOD.
3. CONNECT TO J43 IF TNMC IS LESS THAN 8x48.
4. S2 #5 CONTROLS HOME/GUEST OUTPUT

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		PROJ: OUTDOOR MCAST LED SCOREBOARDS TITLE: SCHEMATIC; OD, 3500 TNMC, 46MM, WHT DESIGN: SBRINK DRAWN: SBRINK DATE: 27 OCT 10	
SCALE: NONE SHEET: 00		JOB NO: 1544 FLUNC-TYPE-SIZE: R-03-B 1036125	

Appendix B: 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 FITNESS 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 1-800-DAKTRONics (1-800-325-8766).