

Single-Section Outdoor Incandescent Scoreboards

Installation, Maintenance, and Specifications Manual

ED11974

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MODEL NUMBERS

BA-515	BA-718	CT-2001	MS-915	MS-2006	SO-2008
BA-518	BA-1018	CT-2002	MS-918	MS-2011	TI-218
BA-618	BA-2003	FB-824	MS-2002	SO-824	TI-418
BA-624	BA-2004	FB-2340	MS-2004	SO-918	TI-2003

ED11974

Product 1091

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Note: Please fill in the information below for your display, and use it as a reference when calling Daktronics for assistance.

Serial No. _____

Model No. _____

Date Installed _____



DAKTRONICS

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Tel 605-697-4036 or 877-605-1115 Fax 605-697-4444
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Section 1: Introduction

1.1 How To Use This Manual

This manual explains the installation of *Daktronics Single-Section, Outdoor Incandescent Scoreboards* and provides details for display maintenance. For questions regarding the safety, installation, operation, or service of this system, please refer to the telephone numbers listed on the cover page of this manual.

Important Safeguards:

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

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

DAKTRONICS, INC. BROOKINGS, SD 57006		
PROJ: BASKETBALL		
TITLE: SEGMENTATION, 7 SEG BAR DIGIT		
DES. BY: BPETERSON	DRAWN BY: TNELSON	DATE: 8 JUL 01
APPR. BY: AVB	7087-P08A-69945	
SCALE: 1 = 4		

Figure 1: Daktronics Drawing Label

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

The serial and model number of a Daktronics scoreboard can be found on the ID label, located on the display. This label will be similar to the one shown in **Figure 2**. When calling Daktronics Customer Service, please have this information available to ensure that your request is serviced as quickly as possible.

	ASSY. NO.		
	SER. NO.		
	MFG DATE		
	DAKTRONICS, INC. 331 32ND AVE. P.O. BOX 5128 BROOKINGS, SD 57006	PHONE 1-605-697-4000	LL-2306

Figure 2: Scoreboard ID Label

1.2 Product Safety Approval

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

1.3 Manual Overview

This manual is divided into the following sections:

- Section 1:** Contains an overview of the manual and explains the Daktronics drawing numbering system and Daktronics Exchange and Repair and Return programs.
- Section 2:** Lists the drawings needed to determine scoreboard model numbers.
- Section 3:** Contains tables showing all of the mechanical specifications, circuit specifications, and maximum power requirements for each model.
- Section 4:** Lists drawings needed to determine the location of scoreboard components.
- Section 5:** Lists the electrical schematic drawings for each model.
- Section 6:** Contains information needed for the mechanical installation for each model.
- Section 7:** Contains information needed for the electrical installation for each model.
- Section 8:** Contains information needed to service the scoreboards.
- Section 9:** Contains information needed to service the team name message centers.
- Section 10:** Contains descriptions and installation instructions for the various scoreboard options.
- Appendices:** Contain reference drawings and **ED-7244, Eyebolts**.

1.4 Daktronics Exchange and Repair and Return Programs

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

Daktronics' unique Exchange Program is a quick, economical service for replacing key components in need of repair. If a component fails, Daktronics sends the customer a reconditioned replacement within 24 hours. The customer, in turn, sends the failed component to Daktronics. This not only saves money but also decreases scoreboard downtime. This service is provided to qualified customers who follow the program guidelines explained below.

Daktronics provides this service to ensure users get the most from their Daktronics products. Please call the Help Desk – (877) 605-1115 – if you have questions regarding the Exchange Program or any other Daktronics service.

When you call the Daktronics Help Desk, a trained service technician will work with you to diagnose the equipment problem and determine which replacement part to ship. (If, after you make the exchange, the equipment still has problems, please contact our Help Desk immediately.) If the replacement part fixes the problem, package the defective part in the same box and wrapping in which the replacement part arrived, fill out and attach the enclosed UPS shipping document, and *RETURN THE PART TO DAKTRONICS*.

For most equipment, you will be invoiced for the replacement part at the time it is shipped. This bill is due when you receive it.

Daktronics expects immediate return of an exchange part if it does not solve the problem. The company also reserves the right to refuse equipment that has been damaged due to acts of nature or causes other than normal wear and tear.

If the defective equipment is not shipped to Daktronics within 30 working days from the invoice date, it is assumed you are purchasing the replacement part, and you will be invoiced for it. This second invoice represents the difference between the exchange price and the full purchase price of the equipment. The balance is due when you receive the second invoice. If you return the exchange equipment after 30 working days from the invoice date, you will be credited for the amount on the second invoice, minus a restocking fee.

@To avoid a restocking charge, please return the defective equipment within 30 days from the invoice date.

Daktronics also offers a repair and return program for items not subject to exchange.

Return Materials Authorization: To return parts for service, contact your local representative prior to shipment to acquire a Return Materials Authorization (RMA) number. If you have no local representative, call the Daktronics Help Desk for the RMA. This expedites repair of your component when it arrives at Daktronics.

Packaging for Return: Package and pad the item well so that it will not be damaged in shipment. Electronic components such as printed circuit boards should be installed in an enclosure or placed in an antistatic bag before boxing. Please enclose your name, address, phone number and a clear description of symptoms.

This is how to reach us:

Mail: Customer Service
Daktronics, Inc.
P.O. Box 5128
331 32nd Avenue
Brookings, SD 57006

Phone: Daktronics Help Desk: 1 (877) 605-1115 (toll free)
or 1 (605) 697-4036

Fax: 1 (605) 697-4444

E-mail: helpdesk@daktronics.com

Section 2: Model Identification

Use the following drawings to determine your scoreboard model number. The drawings, located in the **Appendix**, are inserted in alphanumeric order by drawing number.

Reference Drawings:

Single-Section Scoreboard Models	Drawing A-124342
Single-Section Scoreboard Models w/TNMC	Drawing A-127262
Single Section Scoreboard Models	Drawing A-152945

Section 3: Specifications

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

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Section 3.2: 230-Volt Single-Section Scoreboards	3-5

3.1 Single-Section Scoreboards

Note 1: Signal wires must be a minimum of 22-gauge with shield. Daktronics recommends using W-1234.

Note 2: 120/240 or two lines of 120 V AC from a 120/208 WYE service.

Model	Dimensions (Height, Width, Depth)	Weight Uncrated (Crated)	Digit Size and Matrix	Wattage		Power (See Note 2)	Amps per Line (Single Phase)	Driver Number and Address
				Lamp	Maximum			
BA-515	H3'-0", W6'-0", D11" (914 mm, 1829 mm, 279 mm)	115 lb 52 kg (118 lb) (54 kg)	Inning, scores 15" 3x5 (381 mm)	25 W	1905 W	120 V AC	16 A	A1 61
			Inning, scores 15" 4x7 (381 mm)	30 W	3280 W	120 V AC	27 A	
			Ball, Strike, Out indicators	40 W				
BA-518	H4'-0", W9'-0", D6" (1219 mm, 2743 mm, 152 mm)	120 lb 55 kg (152 lb) (70 kg)	Inning, scores 18" 3x5 (457 mm)	25 W	1905 W	120 V AC	16 A	A1 61
			Inning, scores 18" 4x7 (457 mm)	25 W	2780 W	120 V AC	24 A	
			Ball, Strike, Out indicators	40 W				
BA-618	H5'-0", W14'-0", D6" (1524 mm, 4267 mm, 152 mm)	250 lb 114 kg (580 lb) (263 kg)	All digits 18" 3x5 (457 mm)	25 W	2110 W	120 V AC	18 A	A1 61
			All digits 18" 4x7 (457 mm)	25 W	3035 W	120 V AC	26 A	
			Ball, Strike, Out, H/E indicators	40 W				
BA-624	H6'-0", W16'-0", D6" (1829 mm, 4877 mm, 152 mm)	375 lb 170 kg (770 lb) (350 kg)	All digits 24" 4x7 (610 mm)	25 W	3035 W	120 V AC	24 A	A1 61
			Ball, Strike, Out, H/E Indicators	40 W				

Model	Dimensions (Height, Width, Depth)	Weight Uncrated (Crated)	Digit Size and Matrix	Wattage		Power (See Note 2)	Amps per Line (Single Phase)	Driver Number and Address
				Lamp	Maximum			
BA-718	H4'-0", W12'-0", D6" (1219 mm, 3658 mm, 152 mm)	160 lb 73 kg (490 lb) (222 kg)	Inning, Time, scores 18" 3x5 (457 mm)	25 W	2555 W	120 V AC	22 A	A1 62
			Inning, Time, scores 18" 4x7 (457 mm)	25 W	3780 W	120 V AC	32 A	
			Ball, Strike, Out indicators	40 W				
BA-1018	H6'-0", W14'-0", D6" (2438 mm, 4877 mm, 152 mm)	270 lb 122 kg (621 lb) (281 kg)	All digits 18" 3x5 (457 mm)	25 W	3050 W	120/240 or 120/208 V AC	L1 15 A L2 11 A	A1 12
			All digits 18" 4x7 (457 mm)	25 W	4675 W	120/240 or 120/208 V AC	L1 23 A L2 17 A	
BA-2003	H4'-6", W10'-0", D8" (1372 mm, 3048 mm, 203 mm)	250 lb 113 kg (475 lb) (215 kg)	All digits 36" 4x7 (914 mm)	40 W	1880 W	120/240 or 120/208 V AC	15 A	A1 11
BA-2004	H6'-6", W20'-0", D6" (2845 mm, 6096 mm, 152 mm)	750 lb 340 kg (1,425 lb) (646 kg)	Ball, strike, out, H/E 18" 3x5 (457 mm) Scoring 15" 3x5 (381 mm)	25 W	8491 W	120/240 or 120/208 V AC	L1 33 A L2 38 A	A1 67 A2 68 A3 69
CT-2001	H2'-0", W6'-0", D11" (610 mm, 1829 mm, 279 mm)	50 lb 23 kg (83 lb) (37 kg)	All digits 18" 3x5 (457 mm)	25 W	975 W	120 V AC	15 A	A1 1
			All digits 18" 4x7 (457 mm)	25 W	1500 W	120 V AC	15 A	

Model	Dimensions (Height, Width, Depth)	Weight Uncrated (Crated)	Digit Size and Matrix	Wattage		Power (See Note 2)	Amps per Line (Single Phase)	Driver Number and Address
				Lamp	Maximum			
CT-2002	H2'-7", W7'-0", D11" (610 mm, 2133 mm, 279 mm)	75 lb 34 kg (125 lb) (57 kg)	All digits 24" 4x7 (610 mm)	25 W	1500 W	120 V AC	15 A	A1 1
FB-824	H4'-0", W14'-0", D6" (1219 mm, 4267 mm, 152 mm)	250 lb 114 kg (560 lb) (254 kg)	All digits 24" 4x7 (610 mm)	25 W	4160 W	120/240 or 120/208 V AC	L1 18 A L2 17 A	A1 11
			Quarter indicators	40 W				
FB-2340	H5'-0", W7'-0", D8" (1524 mm, 2134 mm, 203 mm)	135 lb 61 kg (220 lb) (100 kg)	All digits 18" 4x7 (457 mm)	25 W	3000 W	120/240 or 120/20 V AC	L1 12.5 A L2 12.5 A	A1 2
MS-915	H4'-0", W8'-0", D11" (1219 mm, 2438 mm, 279 mm)	110 lb 50 kg (185 lb) (84 kg)	All digits 15" 3x5 (381 mm)	25 W	2925 W	120/240 or 120/208 V AC	L1 11 A L2 14 A	A1 11
MS-918	H5'-0", W14'-0", D6" (1524 mm, 4267 mm, 152 mm)	275 lb 125 kg (640 lb) (290 kg)	Clock, scores 18" 3x5 (457 mm) Inning 15" 3x5 (381 mm)	25 W	3285 W	120/240 or 120/208 V AC	L1 11 A L2 17 A	A1 11
			Clock, scores 18" 4x7 (457 mm) Inning 15" 4x7 (381 mm)	25 W	4960 W	120/240 or 120/208 V AC	L1 17 A L2 24 A	
			Ball, Strike, Out indicators	40 W				

Model	Dimensions (Height, Width, Depth)	Weight Uncrated (Crated)	Digit Size and Matrix	Wattage		Power (See Note 2)	Amps per Line (Single Phase)	Driver Number and Address
				Lamp	Maximum			
MS-2002	H4'-6", W16'-0", D6" (1372 mm, 4877 mm, 152 mm)	250 lb 114 kg (715 lb) (324 kg)	Clock, scores 24" 4x7 (610 mm)	25 W	4325 W	120/240 or 120/208 V AC	L1 17 A L2 20 A	A1 11
			Period 18" 3x5 (457 mm)	25 W				
MS-2002 w/TNMC	H4'-6", W16'-0", D6" (1372 mm, 4877 mm, 152 mm)	425 lb 193 kg (740 lb) (336 kg)			6245 W	120/240 or 120/208 V AC	L1 25 A L2 28 A	A1 11
			Period 18" 3x5 (457 mm)	25 W				
MS-2004	H5'-0", W18'-0", D6" (1524 mm, 5486 mm, 152 mm)	375 lb 170 kg (770 lb) (350 kg)	All digits 18" 3x5 (457 mm)	25 W	10 000 W	120/240 or 120/208 V AC	L1 28 A L2 28 A	A1 74 A2 75
			All digits 18" 4x7 (457 mm)	25 W				
MS-2006 w/TNMC	H7'-0", W25'-0", D6" (2134 mm, 7620 mm, 152 mm)	500 lb 227 kg (850 lb) (386 kg)	Clock, scores 30" 4x7 (762 mm) Period 24" 4x7 (610 mm)	25 W	10 080 W	120/240 or 120/208 V AC	L1 25 A L2 28 A	A1 11
MS-2011 w/TNMC	H4'-6", W20'-0", D6" (1372 mm, 6096 mm, 152 mm)	475 lb 215 kg (903 lb) (410 kg)	Clock, scores 24" 4x7 (610 mm) Period 15" 3x5 (381 mm)	25 W	7206 W	120/240 or 120/208 V AC	L1 22 A L2 28 A	A1 11
SO-824	H4'-0", W14'-0", D6" (1219 mm, 4877 mm, 152 mm)	250 lb 114 kg (560 lb) (254 kg)	24" 4x7 (610 mm)	25 W	4160 W	120/240 or 120/208 V AC	L1 18 A L2 17 A	A1 11
			Half indicators	40 W				

Model	Dimensions (Height, Width, Depth)	Weight Uncrated (Crated)	Digit Size and Matrix	Wattage		Power (See Note 2)	Amps per Line (Single Phase)	Driver Number and Address
				Lamp	Maximum			
SO-918	H4'-0", W12'-0", D6" (1219 mm, 3658 mm, 152 mm)	225 lb 102 kg (455 lb) (206 kg)	18" 3x5 (457 mm)	25 W	2925 W	120/240 or 120/208 V AC	L1 11 A L2 17 A	A1 11
			18" 4x7 (457 mm)	25 W	4500 W	120/240 or 120/208 V AC	L1 17 A L2 21 A	
			Half Indicators	40 W				
SO-2008 w/TNMC	H5'-6", W16'-0", D6" (1676 mm, 4877 mm, 152 mm)	300 lb 136 kg (570 lb) (259 kg)	All digits 18" 3x5 (457 mm)	25 W	6145 W	120/240 or 120/208 V AC	L1 22 A L2 30 A	A1 17
TI-218	H2'-0", W3'-0", D11" (610 mm, 914 mm, 279 mm)	20 lb 9 kg (57 lb) (26 kg)	All digits 18" 3x5 (457 mm)	25 W	650 W	120 V AC	6	A1 2
			All digits 18" 4x7 (457 mm)	25 W	1000 W	120 V AC	9	
TI-418	H2'-0", W6'-0", D11" (787 mm, 1829 mm, 279 mm)	50 lb 23 kg (87 lb) (40 kg)	All digits 18" 3x5 (457 mm)	25 W	1300 W	120 V AC	11	A1 1
			All digits 18" 4x7 (457 mm)	25 W	2000 W	120 V AC	17	
TI-2003	H3'-0", W4'-0", D11" (914 mm, 1219 mm, 279 mm)	110 lb 50 kg (150 lb) (68 kg)	All digits 30" 4x7 (762 mm)	40 W	1600 W	120 V AC	14	A1 2

3.2 230 Volt Single-Section Scoreboards

Note 1: Signal wires must be a minimum of 22-gauge with shield. Daktronics recommends using W-1234.

Model	Dimensions (Height, Width, Depth)	Weight Uncrated (Crated)	Digit Size and Matrix	Wattage		Power	Amps per Line (Single Phase)	Driver Number and Address
				Lamp	Maximum			
BA-518	H4'-0", W9'-0", D6" (1219 mm, 2743 mm, 152 mm)	120 lb 55 kg (152 lb) (70 kg)	Inning, scores 18" 3x5 (457 mm)	25 W	1905 W	230 V AC	8 A	A1 61
			Inning, scores 18" 4x7 (457 mm)	25 W	2780 W	230 V AC	12 A	
			Ball, Strike Out indicators	40 W				
CT-2001	H2'-0", W6'-0", D11" (610 mm, 1829 mm, 279 mm)	50 lb 23 kg (83 lb) (37 kg)	All digits 18" 4x7 (457 mm)	30 W	1800 W	230 V AC	8 A	A1 1
SO-824	H4'-0", W14'-0", D6" (1219 mm, 4877 mm, 152 mm)	250 lb 114 kg (560 lb) (254 kg)	24" 4x7 (610 mm)	25 W	4160 W	230 V AC	L1 9 A L2 9 A	A1 11
			Half indicators	40 W				

Section 4: Component Locations

Use the following drawings to determine the location of scoreboard components. The drawings are listed below in alphanumeric order by model number. In the **Appendix**, they are inserted in alphanumeric order by drawing number.

Model	Drawing Name	Drawing No.
BA-515	Component Locations, BA-515	A-126083
BA-518	Component Locations, BA-518	A-126084
BA-618	Component Locations, BA-618	A-126221
BA-624	Component Locations, BA-624	A-126285
BA-718	Component Locations, BA-718	A-126306
BA-1018	Component Locations, BA-1018	A-126353
BA-2003	Component Locations, BA-2003	A-158315
BA-2004	Component Locations, BA-2004	A-152733
CT-2001	Component Locations, CT-2001	A-126429
CT-2002	Component Locations, CT-2002	A-126430
FB-824	Component Locations, FB-824	A-126431
FB-2340	Component Locations, FB-2340	A-137679
MS-915	Component Locations, MS-915	A-126432
MS-918	Component Locations, MS-918	A-124343
MS-2002	Component Locations, MS-2002	A-127235
MS-2002 w/TNMC	Component Locations, MS-2002 w/TNMC	A-127193
MS-2002 w/TNMC and 40W Lamps	Component Locations, MS-2002 w/TNMC and 40W Lamps	A-135738
MS-2004	Component Locations, MS-2004	A-128047
MS-2006 w/TNMC	Component Locations, MS-2006 w/TNMC	A-132960
MS-2011 w/TNMC	Component Locations; MS-2011	A-138889
SO-824	Component Locations, SO-824	A-127285
SO-918	Component Locations, SO-918	A-126433
SO-2008 w/TNMC	Component Locations; SO-2008 w/ 832-12 w/TNMC	A-150127
TI-218	Component Locations, TI-218	A-126364
TI-418	Component Locations, TI-418	A-126372
TI-2003	Component Locations, TI-2003	A-126434

Section 5: Schematics

Use the following table to determine the schematic for your scoreboard model. The drawings are listed below in alphanumeric order by model number. In the **Appendix**, they are and inserted in alphanumeric order by drawing number.

Model	Schematic Name	Drawing No.
BA-515	Schematic, 1 Driver 8 Column	A-124298
BA-518	Schematic, 1 Driver 8 Column	A-124298
BA-518, 230 V AC	Schematic, 1 Driver 16 Col. Overseas	A-139639
BA-618	Schematic, 1 Driver 8 Column	A-124298
BA-624	Schematic, 1 Driver 8 Column	A-124298
BA-718	Schematic, 1 Driver 8 Column	A-124298
BA-1018	Schematic, 1 Driver	A-124293
BA-2003	Schematic, 1 Driver 8 Column	A-124298
BA-2004	Schematic; BA-2004	B-155111
CT-2001	Schematic, 1 Driver 8 Column	A-124298
CT-2001, 230 V AC	Schematic, 1 Driver 8 Col. Overseas	A-139733
CT-2002	Schematic, 1 Driver 8 Column	A-124298
FB-824	Schematic, 1 Driver	A-124293
FB-2340	Schematic, 1 Driver	A-124293
MS-915	Schematic, 1 Driver	A-124293
MS-915, 230 V AC	Schematic, 1 Driver 16 Col. Overseas	A-139639
MS-918	Schematic, 1 Driver	A-124293
MS-2002	Schematic, 1 Driver	A-124293
MS-2002 w/TNMC	Schematic; 1 Drvr with 32 or 48-10 TNMC	B-127394
MS-2002 w/TNMC and 40W Lamps	Schematic, 2 Drivers w/32 or 48-12 TNMC	B-132144
MS-2004	Schematic, 2 Drivers	A-124291
MS-2006 w/TNMC	Schematic, 2 Drivers w/32 or 48-12 TNMC	B-132144
MS-2011 w/TNMC	Schematic; 1 Drvr with 32 or 48-10 TNMC	A-127394
SO-824	Schematic, 1 Driver	A-124293
SO-824, 230 V AC	Schematic, 1 Driver 16 Col. Overseas	A-139639
SO-918	Schematic, 1 Driver	A-124293
SO-2008 w/TNMC	Schematic; 1 Drvr with 32 or 48-10 TNMC	A-127394
TI-218	Schematic, 1 Driver 8 Column	A-124298
TI-418	Schematic, 1 Driver 8 Column	A-124298
TI-2003	Schematic, 1 Driver 8 Column	A-124298
TNMC, 832-12	Schematic, 832-12 TNMC	A-125214
TNMC, 848-12	Schematic, 848-12 TNMC	A-125216

Section 6: Mechanical Installation

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

6.1 Footings and Beams

Reference Drawings:

Installation Specifications; BA 515	Drawing A-55003
Installation Specifications; BA 518	Drawing A-55004
Installation Specifications; BA 618	Drawing A-55006
Installation Specifications; BA 624	Drawing A-55007
Installation Specifications; BA 718	Drawing A-55005
Installation Specifications; BA 1018	Drawing A-61904
Installation Specifications; BA-2003	Drawing A-158322
Installation Specifications; BA-2004 & BA-2005	Drawing A-152777
Installation Specifications; FB-2340	Drawing A-169388
Installation Specifications; MS 824	Drawing A-127287
Installation Specifications; MS-915	Drawing A-113568
Installation Specifications; MS 918	Drawing A-55009
Installation Specifications; MS-2002	Drawing A-127195
Installation Specifications; MS 2002 w/TNMC	Drawing A-127195
Installation Specifications; MS-2004	Drawing A-128788
Installation Specifications; MS-2006 w/TNMC	Drawing A-135575
Installation Specifications; MS-2011 w/TNMC	Drawing A-135414
Installation Specifications; SO 824	Drawing A-127287
Installation Specifications; SO 918	Drawing A-55010
Installation; TI-2003	Drawing A-139316
Installation Specifications; SO-2008	Drawing A-149074
Installation Specifications; TI-2003	Drawing A-169367
Installation Specifications; TI-218	Drawing A-169376
Installation Specifications; TI-418	Drawing A-169380

Refer to the installation specification drawings listed above for the rear view of each of the models.

These drawings specify the number of beams and the recommended spacing between them. It is critical that these dimensions be adhered to for scoreboards with team name message centers because of the ventilation hoods located on the rear of the displays.

These drawings also indicate the size of beams required to support the scoreboard at different heights under various wind speed conditions. All of the beam specifications illustrate "W" shape steel beams (wide-flange I-beams). The first number indicates the front-to-rear depth of the beam, and the second number indicates the weight in pounds per foot of length.

The column and footing size dimensions provided in the drawings assist with estimating installation costs. They are estimates only and are not intended for construction purposes. Be sure that your installation complies with local building codes and is suitable for your particular soil and wind conditions.

The columns and footings and all connection details must be designed and certified by a professional engineer licensed to practice in the state in which scoreboard will be installed. **Daktronics does not assume any liability for any installation derived from the information and drawings provided in this manual or designed and installed by others.**

6.2 Lifting the Scoreboard

Reference Drawings:

Lifting Scoreboard	Drawing A-44548
Lifting Small Baseball Scoreboard	Drawing A-58668

Small Daktronics scoreboards are not equipped with eyebolts. Refer to **Drawing A-58668** for lifting details.

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

Daktronics strongly recommends using a spreader bar, or lifting bar, to lift the display. Using a spreader bar ensures that the force on the eyebolts is straight up, minimizing lifting stress. Lifting methods are shown in the illustration below and in **Drawing A-44548**.

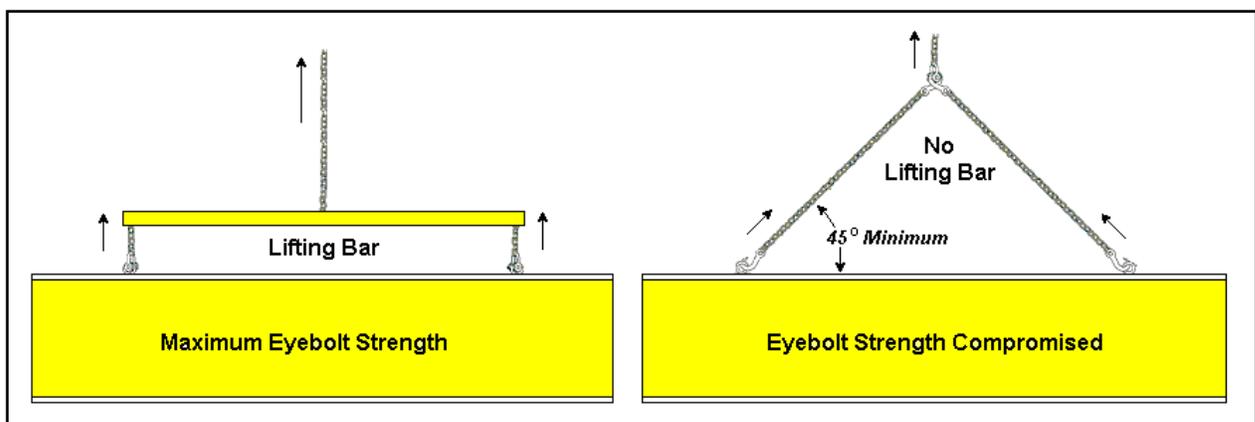


Figure 3: Lifting the Display

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

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

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

Avoid using other lifting methods. Cables and chains attached to the eyebolts and directly to a center lifting point, as show in the right-hand example in **Figure 3**, can create a dangerous lateral force on the eyebolts and may cause the eyebolts to fail. Daktronics scoreboards use $\frac{1}{2}$ " and $\frac{5}{8}$ " shoulder-type eyebolts mounted to a $\frac{1}{8}$ " aluminum plate or steel nut plate, but exceeding load angles or weight limits could cause the bolts to pull out or the scoreboard cabinet to buckle. In either circumstance, the result

would be serious damage to the scoreboard. If you must use this method, ensure a minimum angle between the chain and scoreboard of at least 45°.

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

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

In typical multi-section installations, the lower scoreboard section is installed first and secured to the support beams, and then the upper section is placed atop or above the lower section and attached to the beams. There may be cables extending from the top of the lower section. Guide these cables into the hole in the bottom of the upper section for later connection.

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

6.3 Scoreboard Mounting

Use the following table to determine the mounting method for your scoreboard.

Method 1	BA-618, BA-624, BA-918, BA-1018, BA-2003, BA-2004, FB-824, MS-918, SO-824, SO-918, SO-2008, MS-2002, MS-2004, MS-2011
Method 2	BA-515, BA-518, BA-718, CT-2001, CT-2002, FB-2340, MS-915, TI-218, TI-418, TI-2003, MS-2006

Method 1

Reference Drawings:

Display Mounting	Drawing A-44412
Ad Panel Mounting	Drawing A-52187
Installation Specifications, BA 618	Drawing A-55006
Installation Specifications, BA 624	Drawing A-55007
Installation Specifications, BA-2003	Drawing A-158322
Installation Specifications; BA-2004 & BA-2005.....	Drawing A-152777
Installation Specifications, FB-824/SO-824	Drawing A-127287
Installation Specifications, MS 918.....	Drawing A-55009
Installation Specifications, SO 918.....	Drawing A-55010
Installation Specifications, BA 1018	Drawing A-61904
Installation Specifications, MS-2002	Drawing A-127195
Installation Specifications, MS-2004	Drawing A-128788
Installation Specifications, SO-2008.....	Drawing A-149074
Installation Specifications; MS-2011 w/TNMC	Drawing A-135414

Drawing A-44412 shows the hardware used for mounting the scoreboard to the beams. Each section of the scoreboard attaches at the top and the bottom to all the beams. **Drawing A-44412** also shows top and side views of the scoreboard secured to the beams. Note that the threaded rods *do not* pass through the flanges of the beams, but instead run along both sides of each beam. Refer

to the **Installation Specifications** drawing for your model to determine the center-to-center distance of the poles.

Review the illustrations of the mounting hardware in **Drawing A-44412**, and then use the following procedure for each section.

1. Loosely attach the inner and outer mounting clamps to the rear flanges of the scoreboard's horizontal frame members, using the $\frac{3}{8}$ " bolts. Measure the beam spacing, and position the clamps to fit on either side of the beams.
2. Insert a $\frac{1}{2}$ " square nut into each mounting clamp. From the rear, screw a threaded rod into each of the nuts.
3. Position the scoreboard at the front of the beams with the threaded rods extending from the rear of the clamps, straddling the beams. Raise the scoreboard section to the desired height.
4. Slide clamping angles over the ends of the rods and loosely install the washers and nuts.
5. Make final adjustments in the positioning of the scoreboard. Tighten the $\frac{3}{8}$ " bolts in the mounting clamps.
6. Make sure that the threaded rods are perpendicular to the scoreboard, and tighten all of the $\frac{1}{2}$ " nuts.

Method 2

Reference Drawings:

Scoreboard Mounting	Drawing A-55101
Installation Specifications, BA 515	Drawing A-55003
Installation Specifications, BA 518	Drawing A-55004
Installation Specifications, BA 718	Drawing A-55005
Installation Specifications, FB-2340	Drawing A-169388
Installation Specifications, MS-915	Drawing A-113568
Installation Specifications, MS-2006	Drawing A-135575
Installation Specifications; TI-2003.....	Drawing A-169367
Installation Specifications; TI-218.....	Drawing A-169376
Installation Specifications; TI-418.....	Drawing A-169380

Refer to **Drawing A-55101** for mounting details. Refer to the **Installation Specifications** drawing for your model to determine the center-to-center distance of the poles.

Mount the scoreboard as follows:

1. Use the mounting channel to determine which hole combination to use. Be sure to keep the bolts as close to the beam as possible.
2. Using the mounting channel as a template, drill $\frac{9}{16}$ " holes in the upper and lower rear flange of the scoreboard where the supports will go.
3. Place square nuts inside the channel and thread the bolts through.
4. Lift the scoreboard into position with the bolts still in place.
5. Place mounting angles over each pair of bolts and secure with lockwashers and hex nuts.
6. After adjusting the scoreboard to the final desired position, tighten hex nuts firmly.

When mounting a scoreboard with back sheets, remove the back sheets in the areas above and below the holes drilled in the upper and lower rear flange of the scoreboard. Be sure to replace the back sheets after placing the square nuts inside the channel and threading the bolts through the holes.

6.4 Ad Panel Mounting

Reference Drawings:

Ad Panel Mounting.....	Drawing A-52187
Assembly, Ad Panel, BA-515	Drawing A-52585
Ad Panel Mounting, BA-518	Drawing A-52811

Refer to **Drawing A-52187** for mounting details.

Mount the ad panel(s) as follows:

1. Use the mounting channel to determine which hole combination to use. Be sure to keep the bolts as close to the beam as possible.
2. Using the mounting channel as a template, drill $\frac{9}{16}$ " holes in the upper and lower rear flange of the ad panel where the supports will go.
3. Place square nuts inside the channel and thread the bolts through.
4. Lift the ad panel into position with the bolts still in place.
5. Place mounting angles over each pair of bolts and secure with lock washers and hex nuts.
6. When the panel is adjusted to the final desired position, tighten hex nuts firmly.

When mounting ad panels with back sheets, remove the back sheets in the areas above and below the holes drilled in the upper and lower rear flange of the ad panel. Be sure to replace the back sheets after placing the square nuts inside the channel and threading the bolts through the holes.

Models BA-515 and BA-518

Ad panels are mounted directly to the scoreboard for models BA-515 and BA-518. Refer to **Drawings A-52585** and **A-52811** for mounting details.

Section 7: Electrical Installation

Reference Drawings:

Components 8/16 Pos Power and Signal Entrance	Drawing A-109114
Components 2/4 Pos Power and Signal Entrance	Drawing A-125977

Electrical installation consists of:

- Providing power and ground to a disconnect near the scoreboard.
- Routing power and ground from the main disconnect to the scoreboard power and signal entrance enclosure.
- Connecting the scoreboard ground to a grounding electrode at the scoreboard location.
- Routing the control signal cable from the control location to the scoreboard location.
- Connecting several cables from the lower to the upper section.

Route power and signal cables into the scoreboard from the rear. There are two knockouts for conduit connection in the back. All wires connect to the entrance plate. **Drawings A-109114** and **A-125977** illustrate the two types of entrance panels.

7.1 Power Requirements

Reference Drawings:

Components 8/16 Pos Power and Signal Entrance	Drawing A-109114
Components 2/4 Pos Power and Signal Entrance	Drawing A-125977

Refer to the chart in **Section 3** to determine circuit specifications and maximum power requirements for the models described in this manual.

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

Proper power installation is imperative for proper display operation. The following subsections give details of display power installation.

Grounding

 *Displays **MUST** be grounded according to the provisions outlined in Article 250 of the National Electrical Code[®]. Daktronics recommends a resistance to ground of 10 ohms or less.*

The display system *must* be connected to earth-ground. Proper grounding is necessary for reliable equipment operation. It also protects the equipment from damaging electrical disturbances and lightning. ***The display must be properly grounded or the warranty will be void.***

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

Power Installation

There are two basic considerations for power installation: installation with ground and neutral conductors provided, and installation with only a neutral conductor provided. These two power installations differ slightly, as described in the following paragraphs:

Installation with Ground and Neutral Conductors Provided

For this type of installation, the power cable *must* contain an isolated earth-ground conductor. In this circumstance, *do not* connect neutral to ground at the disconnect or at the display. This would violate electrical codes and void the warranty. Use a disconnect so that all hot lines and neutral can be disconnected. The National Electrical Code requires the use of a lockable power disconnect within sight of or at the display.

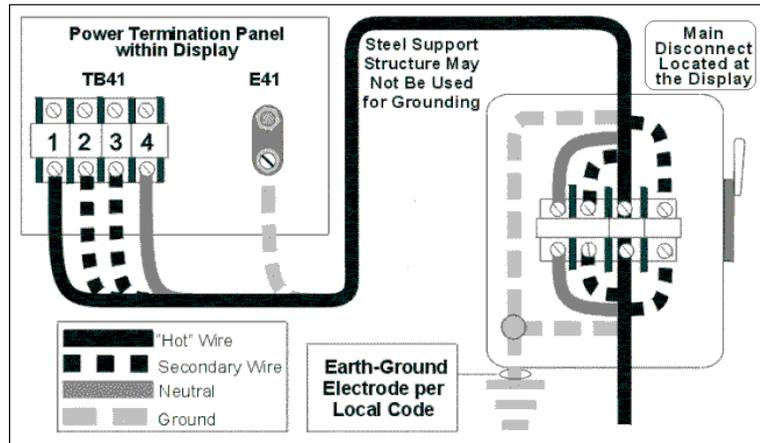


Figure 4: Installation with Ground and Neutral Conductor Provided

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 entrance enclosure.
- Use a disconnect that opens all of the ungrounded phase conductors.
- Bond the neutral and the ground conductors in the display power entrance enclosure.

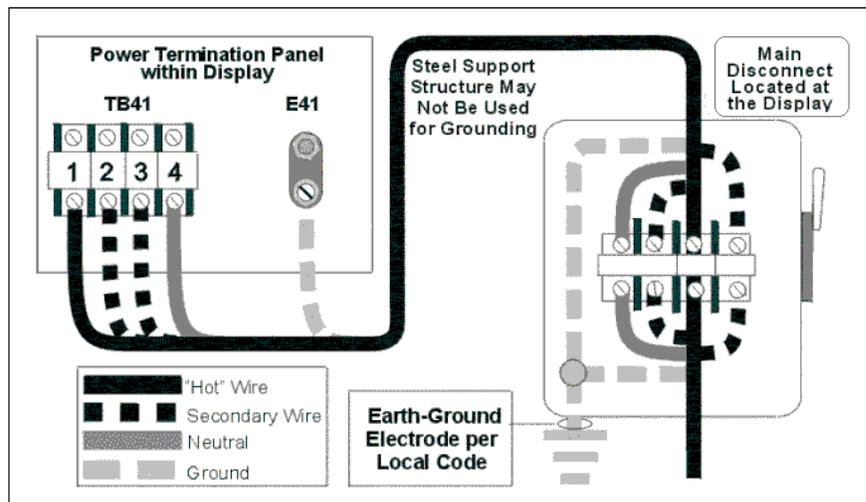


Figure 5: Installation with Only Neutral Conductor Provided

The scoreboard **must** be connected to earth ground. Proper grounding is necessary for reliable equipment operation. It also serves to provide protection to the equipment against damaging electrical disturbances and lightning. ***Failure to adhere to the following grounding methods will void the warranty.***

The steel support structure for the scoreboard cannot be used as grounding. The support is generally embedded in concrete, and if in earth, the steel is either primed or it corrodes, making it a poor ground. Use one ground electrode (typically, a ground rod) at each scoreboard support column.

The power cable **must** contain a separate earth-ground conductor. When a separate ground conductor is used, **do not** connect neutral to ground at the disconnect or at the scoreboard. To do so would violate electrical codes and void the warranty. Refer to **Figure 5**.

The National Electrical Code requires the use of a lockable power disconnect near the scoreboard. The customer must provide a lockable disconnect switch (knife switch) at the scoreboard location so that all power lines can be completely disconnected. Use a multi-conductor disconnect so that all hot lines and the neutral can all be disconnected. This is important in protecting the scoreboard against lightning.

K Note: Do not connect ground to neutral at the scoreboard. Doing so voids the warranty and may violate electrical codes.

7.2 Power and Signal Connection

Reference Drawings:

Components 8/16 Pos Power and Signal Entrance	Drawing A-109114
Components 2/4 Pos Power and Signal Entrance	Drawing A-125977

To gain access to the entrance panel, open the access door and remove the cover from the entrance enclosure. Refer to **Section 4: Component Locations** for the location of the access door for the model of your scoreboard.

Connect the power and signal cables to the entrance panel as shown in **Drawings A-109114** and **A-125977**.

Section 8: Digit Maintenance and Troubleshooting



IMPORTANT NOTES:

1. **Disconnect power before doing any repair or maintenance work on the scoreboard!**
2. **Allow only qualified service personnel access to internal display electronics.**
3. **Disconnect power when not using the scoreboard.**

*For assistance in the maintenance of the optional message center, refer to the manual that accompanies the message center or to **Section 9** in this manual.*

8.1 Component Access

Lamp Driver Access

Refer to the **Component Locations** drawings listed in **Section 4** for the location of the lamp drivers. To access a lamp driver:

1. Open the access panel by turning the $\frac{1}{4}$ -turn screws. The door will swing open.
2. Remove the driver enclosure cover.
3. Disconnect the plugs.
4. Remove the wing nuts securing the lamp driver to the enclosure.
5. Carefully pull out the lamp driver and set it on a clean, flat surface.

Important: When the lamp drivers are replaced, plugs P25 and P26 (if present) must be removed from the old driver and plugged into the new driver.

Digit Access

Reference Drawing:

Digit Service **Drawing A-27674**

Use the following instructions to remove a digit from the front of the scoreboard.

Note: The digit does not need to be removed to change the lamps.

1. Remove the screws securing the screen (refer to **Drawing A-27674**).
2. Carefully pull the digit out part way so that the ground wire can be unscrewed and the harness unplugged.
3. Place the digit on a clean level surface.

8.2 Lamp Replacement

Reference Drawing:

Digit Service **Drawing A-27674**

The primary service required for Daktronics baseball scoreboards is to periodically replace bad lamps. Refer to the table in **Section 3** to determine the wattage of the lamps the scoreboard uses. Refer to **Section 8.8** to determine the part numbers. Do not use higher-wattage lamps or damage to the circuit may result. Refer to **Drawing A-27674** to access a digit.

8.3 Lamp Drivers

Reference Drawings:

Layout, 16 Column Driver III **Drawing A-123940**

Layout, 8 Column Driver III **Drawing A-123941**

Important: When the lamp drivers are replaced, plugs P25 and P26 (if present) must be removed from the old driver and plugged into the new driver.

In the scoreboard, the lamp drivers perform the task of switching digit lamps on and off (refer to **Drawings A-123940** and **A-123941**).

Each lamp driver has connectors providing power and signal inputs to the circuit, and outputs to the digits and indicators. The connectors function as follows:

8-Column Lamp Driver	
Connector No.	Function
1 – 8	Outputs to digits and indicators
17	Control signal input
18	Power input for outputs 1 – 8
19	Power input (120V) for driver

16-Column Lamp Driver	
Connector No.	Function
1 – 16	Outputs to digits and indicators
17	Control signal input
18	Power input for outputs 1 – 8
19	Power input (120V) for driver
20	Power input for outputs 9 - 16

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

8.4 Fuses

Reference Drawings:

Layout, 16 Column Driver III	Drawing A-123940
Layout, 8 Column Driver III	Drawing A-123941

The digit lamp driver has 17 fuses. There is one fuse to protect each digit circuit. F1 through F16 are located near each output connector under the driver's metal cover. The lamp driver's other fuse, F17 protects the driver's logic circuit and fan. Refer to **Drawings A-123940** and **A-123941** for an illustration of the driver and these fuses. Refer to **Section 8.8** to determine the part numbers for replacement fuses.

8.5 Segmentation

Reference Drawing:

Digit Segments, 3x5 and 4x7	Drawing A-46653
-----------------------------------	------------------------

In each digit, certain lamps always go on and off together. These groupings of lamps are referred to as *segments*. **Drawing A-46653** shows the segmentation of 3x5 and 4x7 digits, which connector pin is wired to each digit segment and the wiring color code used in all driver-to-lamp connections.

8.6 Power On Self-Test

Reference Drawings:

Incandescent Driver Power Up Self-Test	Drawing A-128283
Power Up Self Test on a FB-1424	Drawing A-128301

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.

The self-test runs in three cycles or phases. The pattern of the self-test varies depending on the scoreboard model, number of drivers, and type of digits.

- **Drawing A-128283** shows how the test pattern displays in the digits when the address (P25) and protocol (P26) plugs are not plugged into the lamp drivers.
- **Drawing A-128302** shows the test pattern displayed on a scoreboard that has one lamp driver with the address (P25) plugged in.

These are the three cycles of the self-test:

- Cycle 1:* Displays the protocol in digits that are controlled by lamp driver A1. P0 is always displayed when P26 is not installed.
- Cycle 2:* Displays the driver number and address in the digits that are controlled by each driver. A000 is always displayed when P25 is not installed.
- Cycle 3:* Displays a rotating pattern in all digits. The pattern starts in row 1 and rotates through row 8 (refer to **Drawing A-128283**).

8.7 Lightning Protection

The Transient Voltage Surge Suppressor (TVSS), located in the load center, reduces the brief surge induced into the power lines when lightning strikes in the vicinity of the scoreboard. A varistor in the power lines to the driver logic also helps to protect this circuit by reducing such surges.

The use of a disconnect near the scoreboard to completely cut all current-carrying lines significantly protects the circuits against lightning damage. The National Electrical Code also requires it. In order for this 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 J-box when the system is not in use. The same surges that may damage the scoreboard's driver can also damage the console's circuit.

8.8 Replacement Parts

Refer to the following table for Daktronics outdoor scoreboard replacement parts. Refer to **Section 9.14** for a listing of parts required for service of the team name message centers. Refer to **Section 1.4** for details concerning the Daktronics Exchange and Repair and Return programs.

Important: When the lamp drivers are replaced, plugs P25 and P26 (if present) must be removed from the old driver and plugged into the new driver.

Description	Location	Daktronics Part No.
Fuse; AGC-1/2	F17 in lamp driver	F-1000
Fuse; AGC-10	F1 - F16 in lamp driver(s)	F-1006
Lamp, 25 W, 120 V	3x5 and 24" digits, 15" and 18" 4x7 digits	DS-1029
Lamp, 30 W, 130 V	15" 4x7 digits	DS-1182
Lamp, 40 W, 120 V	Indicators	DS-1163
Lamp, 25A19, 230 V frosted	Digits and indicators	DS-1363
Plug, 1/4" phone	Signal	P-1003
Socket, med. base lamp	All lamps	X-1301
Socket*, lamp, med. base, insulation displacement	All lamps	X-1294*
J-box, 1/4" phone, Indoor	Signal	0A-1009-0038
J-box, 1/4" phone, outdoor	Signal	0A-1091-0227
Signal surge arrestor	Power/signal entrance enclosure	0P-1033-0114
12 V DC trumpet horn asm.	Scoreboard	0A-1091-1213
Lamp driver, 8-column	Scoreboard	0A-1033-0126
Lamp driver, 16-column	Scoreboard	0A-1033-0125
Lamp driver, 230 V 8-col.	Scoreboard	0A-1033-0130
Lamp driver, 230 V 16-col.	Scoreboard	0A-1033-0129
Signal cord; 1/4" phone 20'	N/A	W-1236
Signal cord; 1/4" phone 30'	N/A	W-1238
Signal cord; 1/4" phone 50'	N/A	W-1237
18" 4x7 shade screen	18" 4x7 digits or 3x5 digits	0S-1064-0001

Description	Location	Daktronics Part No.
24" 4x7 shade screen	24" 4x7 digits	0S-1064-0002
15" 4x7 shade screen	15" 4x7 digits or 3x5 digits	0S-1064-0074
30" 4x7 shade screen	30" 4x7 digits	0S-1091-0002

**This part, X-1294, is intended for use with scoreboards shipped after October, 2001. Models shipped prior to that date will continue to use original equipment.*

8.9 Troubleshooting

This section lists potential problems with the scoreboard and indicates possible causes and corrective actions. This list does not include every possible problem, but does represent some of the more common situations that may occur. Refer to **Section 9.13** for a list of potential problems with team name message centers.

Important: When the lamp drivers are replaced, plugs P25 and P26 (if present) must be removed from the old driver and plugged into the new driver.

Symptom/Condition	Possible Cause or Corrective Action
<i>Scoreboard will not light.</i>	<ul style="list-style-type: none"> ▪ Console not connected or poor connection ▪ No power to the control console ▪ No power to the scoreboard ▪ Bad relay or poor relay connection in signal circuit ▪ Driver logic fuse (F17) blown ▪ P17, P19, or P20 unplugged
<i>Half of the scoreboard will not light.</i>	<ul style="list-style-type: none"> ▪ Circuit breaker tripped at service panel ▪ Driver malfunction ▪ Poor signal contact at main power connection
<i>Display is garbled.</i>	<ul style="list-style-type: none"> ▪ Control console malfunction ▪ Internal lamp driver malfunction
<i>Digit will not light.</i>	<ul style="list-style-type: none"> ▪ Fuse blown in driver ▪ Black wire to the digit damaged ▪ Poor contact at driver connector
<i>Segment will not light.</i>	<ul style="list-style-type: none"> ▪ Lamps burned out ▪ Driver malfunction (bad triac) ▪ Broken wire between lamp driver and digit ▪ Poor contact at driver connector
<i>Segment stays lit.</i>	<ul style="list-style-type: none"> ▪ Driver malfunction (bad triac) ▪ Segment neutral wire touching case

Section 9: Team Name Message Centers Maintenance and Troubleshooting



IMPORTANT NOTES:

1. Turn power off before doing any repair or maintenance work on the display!
2. Permit only qualified service personnel to access internal display electronics.
3. **Do not operate the display with the back sheets removed!** The cabinet is positively pressurized, directing adequate airflow around the lamps and out through the lenses. Display operation without the back sheets in place and fans running could cause damage to the display and will void the warranty. *Make certain the back sheets are fastened securely into place.*
4. **Dirt and contaminants may enter the display if it is operated without the fan filters in place or with dirty fan filters.** These contaminants may cause premature failure of the electronic components. *Operating the display with dirty fan filters or without fan filters will void the warranty.*
5. **Daktronics product managers or engineering staff must approve any changes that may affect the weather-tightness of the display.** This is to include, but is not limited to, border shrouding, back sheets, cooling fans, fan filter and filler panels. *If ANY modifications are made to the weather-tightness of the display, detailed drawings MUST be submitted to our engineering staff for evaluation and approval, or the warranty will be null and void.*
6. **Turning the power off when the display is not in use extends the life of some components.**

The team name message centers for standard (not modified for an individual customer) scoreboards are FRONT-ACCESSIBLE for service. Custom scoreboards may be accessed from the front *or* rear. This manual applies to team name message centers used in standard scoreboards.

9.1 TNMC Schematics

Reference Drawings:

Schematic, 832-12 TNMC	Drawing A-125214
Schematic, 848-12 TNMC	Drawing A-125216

Refer to the team name message center schematic **Drawings A-125214 and A-125216** listed in **Section 5**.

9.2 Service Procedures

Reference Drawings:

Lens Removal, Front Access	Drawing A-99898
Lens Assy Removal, Front Access	Drawing A-99899
Correct Lens Position, 1-1/2"	Drawing A-75204

Removing a Module

For many maintenance or repair procedures, the first step is to remove a module. Each 8x16 lens assembly is secured to the frame by two spring-loaded latches, one on each side. Follow these instructions for access to these latches:

1. Remove the lens from row 4, column 1, and the lens from row 4, column 16 of the lens assembly. Refer to **Drawing A-99898**.
2. Place the front access tool into the latch access hole. The angled edge of the tool should be down so it wedges the latch pin down as it is pushed further into the access hole. Refer to **Section 9.14** for the part number of the access tool.
3. When the front access tool is fully inserted, the module latches should be released (refer to **Figure 6**).



Figure 6: Removing a Module

4. With the latch released, pull the lens assembly slightly away (about $\frac{1}{2}$ ") from the display. This will prevent it from re-latching. Refer to **Drawing A-99899**.
5. Repeat this procedure with the remaining side.
6. With both sides unlatched, the assembly should pull away from the display far enough so the signal and power harness can be disconnected from the lampbank. When the signal and power harnesses are removed, the module can be removed from the display.

Note: A $\frac{3}{16}$ " slotted screwdriver may be used in place of the access tool.

Removing a Lampbank

The lampbank is attached to the lens assembly with a metal tab at each corner. To remove the lampbank:

1. Push in the clips while gently pulling the lampbank out.
2. Repeat this step for the three remaining corners. Lampbanks should be serviced in a static-free area to prevent static electricity from damaging the components.

Replacing a Lampbank

When lampbanks are reattached to the lens assemblies, be certain the lamp sockets are seated tightly against the reflectors. All four tabs, one in each corner, must be snapped securely onto the lampbank. If the lampbank is not secured properly to the lens assembly, the lamp filament will not be at the focal point of the reflector, and parts of that lens assembly will appear dim.

Replacing the Module

To reinstall a lens assembly in the display, refer to **Drawing A-75204**:

1. Reconnect power and signal connections to the lampbank.
2. Tilt the module about 30 degrees and place the bottom corners of the side brackets to the inside of the frame verticals.
3. Push the lens assembly firmly back into place until the latches snap into place and the lens assembly is secured to the display. It may be necessary to use a solid object, such as a short length of 2"x4" lumber, to properly seat the assembly. Place the 2x4 across the louvers so the pressure on them is evenly distributed and strike the board with the heel of your hand. This should drive the assembly in place.
4. Pull firmly on the assembly to ensure that it is fully in place and secured to the display. The lens assemblies must fit together tightly enough so the weatherstripping forms a seal and prevents water from leaking between the lens assemblies and into the display. The seal between the assemblies should be checked with a 0.032" feeler gauge.
5. Snap the lenses back into the faceplate of the lens assembly. If a lens is not replaced properly, it is easily noticed. The lens removal tab or the lens itself will not be in alignment with the other lenses or lens tabs.
6. Verify that the rows of louvers on the lens assembly are in proper alignment.

9.3 Lamp Testing and Replacement

Reference Drawing:

Lens Removal, Front Access. **Drawing A-99898**

This display is designed for easy lamp replacement with front access. Non-functioning lamps should always be replaced prior to scheduled events, or as soon as possible, for best viewing.

A 3.58 W lamp is positioned behind each lens. Use the controller lamp test to locate bad lamps. Refer to **Section 9.14** for the part numbers of replacement lamps and lenses.

- Daktronics-approved 3.58 W lamps have an estimated life of 17,000 hours if operated at 11.0 V. **Always use Daktronics-approved lamps.**
K Note: Lamps purchased from Daktronics are built to tighter specifications than similar lamps built in standard production. The recommended lamps give the sufficient intensity and beam spread to match the display design. Lamps not built to Daktronics specifications will not perform as well and will not give the intended results.
- A qualified individual who is capable of operating the controller equipment should do lamp testing.
- Display power must be **OFF** for lamp replacement.

Individual Lamp Replacement

Grasp the tab on the top center of the lens with the lamp-extracting tool (refer to **Drawing A-99898**). Pull the tab out and down, and at the same time, with your other hand, *lightly* press up on the louver *directly above* the lens to be removed. **Do not press up on the louver any further than necessary, or the louver may become deformed.**

1. Remove the defective lamp using the lamp-extracting tool.
2. Replace defective lamps with Daktronics approved lamps of the same wattage. Refer to **Section 9.14** for the correct replacement lamps.
3. Noting proper lens orientation, snap the lens back into the lens/reflector assembly (refer to **Section 9.4**).

9.4 Lens Position and Sequence

Reference Drawing:

Lens Removal, Front Access. **Drawing A-99898**

The slot in the bottom of the reflector accommodates the lens indexing tabs. To insert a lens, set the lens tabs into the reflector slots and snap the lens up into the vertical position. Make sure that the lens is snapped in and behind the upper louver offset.

Inspect the profile of the lenses to ensure that all lenses are secured properly. Lenses that are not secured properly can be easily noticed, since the lens removal tab or the lens itself will not be in alignment with the other lenses or lens tabs in that row.

Refer to **Drawing A-99898** for more information.

9.5 Lens/Reflector Assembly Maintenance

Reference Drawing:

Lens Assy, Weather Stripping Location **Drawing A-91100**

The lens/reflector assemblies are maintenance-free; however, each time an assembly is removed from the display, the pile weatherstripping should be checked for signs of deterioration. The weatherstripping runs along the top and sides of each lens/reflector assembly. In addition, over time, the louvers on the front of lens/reflector assembly may become damaged and require replacement. Weatherstripping and louver replacement are addressed in the following subsections.

Weatherstripping Maintenance

The top and bottom of each 8x16 lens assembly has a strip of pile weatherstripping. There is also tape weatherstripping between each louver assembly. The weatherstripping helps keep moisture out of the display and maintains the positive air pressure necessary for proper display cooling. When doing routine display maintenance, which involves removing the 8x16 lens assemblies, make sure the weatherstripping is intact. If any weatherstripping appears damaged, replace it. Refer to the following instructions and **Drawing A-91100**. Refer to **Section 9.14** for part numbers.

1. Once the old weatherstripping has been removed, clean the top and bottom of the lens assembly with an adhesive remover so the new weatherstripping will adhere.
2. The weatherstripping should be applied in one continuous strip on both the top and bottom of the lens assembly.

3. When finished, the stripping should be flush at the bottom. If the weather stripping is not tight or buckles anywhere on the lens assembly, it will be difficult to reinstall it in the display, and it will allow water to enter the display and damage the electrical components.
4. Check the module spacing and weather stripping tightness with the 0.032" feeler gauge.

Louver Maintenance

If display louvers become bent or damaged, they must be replaced. The lens/reflector assembly containing the damaged louvers should be returned to Daktronics for repair or replacement.

9.6 Lamp Module Transformer

Displays with team name message centers are shipped with transformers which, when wired to the 120 V tap with a line voltage of 120 V, will deliver 11.0 volts to the lamp. Lamp life is estimated to be 17,000 hours with this transformer. Refer to **Section 9.14** for the correct part number for the replacement transformer

Due to input line voltage variations from site to site, the resultant lamp voltages may vary, which may greatly alter lamp life.

If the measured input line voltage is over the particular transformer's rated input voltage, increased voltage will be delivered to the lamp, and that will greatly reduce lamp life.

The transformer is may be adjusted both up and down if line voltage varies enough to greatly alter lamp life/lamp brightness.

If the transformer requires adjustments, contact Daktronics Customer Service.

9.7 Fan Filters

Reference Drawing:

Filter Removal; 250 CFM Fan **Drawing A-113986**

Metal shrouds on the rear of the display house the fan filters and shed rain. Filters must be checked every 1,500 hours of operation for accumulation of debris that could restrict airflow.

Check filters after the display has been in operation for 1,500 hours—and every 1,500 hours thereafter – to ensure that the display is being cooled properly. Filters should be checked more often if the display is located in a dusty or harsh-weather environment (that is, along a gravel road with dust-laden air). The 1,500 hours is equivalent to 83 days if the display is operated for 18 hours a day and the power to the display is turned off when it is not in use. (Turning off the power ensures that the fans are not operating when the display is not running.) If the display is on running non-stop, 24 hours a day, 1,500 hours is equivalent to 72 days.

Daktronics recommends that spare filters be kept on hand at all times. Ideally, all filters should be replaced during routine maintenance. If a filter media shows evidence of damage or wear, replace the filter with a Daktronics filter. If a filter other than the Daktronics standard filter is used, follow these criteria (refer to **Section 9.14** for the part number of the filter):

1. Effective filter area must be no less than 2.3 square feet per 1.0 square feet of face area, and
2. Filter media must have an average arrestance of 90-92 percent.

Once the filters have been replaced, turn power back on. Make sure that the fans are turning properly.

K Note: Turn the power OFF after checking the fans.

Periodically check airflow through the lenses to ensure that there are no obstructions in the lens exhaust holes. Airflow is necessary to adequately cool the lenses and lamps. Keep the interior of the module clean to prevent a buildup of dust on the lenses. Use an air hose and a vacuum cleaner to keep the display clean. Inspect the cabinet seal periodically to make certain it is sealing properly. If you detect leaks, repair or replace the pile weatherstripping seal around the edges of the cover.

Used this method for checking both the airflow through the lenses and the cabinet seal:

- Direct smoke toward the fan inlet and note where the smoke exits.
- Check all around the cabinet and the lenses. If smoke does not exit a particular group of lenses, remove the lenses to clean out any debris, replace the lenses and retest.

9.8 Filter Removal

Reference Drawing:

Filter Removal; 250 CFM Fan **Drawing A-113986**

Follow the steps on **Drawing A-113986** to remove the filter from the scoreboard. Check the fan as follows:

1. Inspect the filter and determine if it should be replaced or cleaned.
2. Inspect the filter assembly perimeter gasket for evidence of deterioration or air leakage around or through the gasket. The factory-applied gasket is at the top of the rain shield assembly and to the front of the filter holder. The gasket is also on the 16" sides of the filter. If any part of the gasket material is damaged and needs to be replaced, refer to **Section 9.14** for the part number of the gasket material.
3. Insert a filter into the filter holder.
4. Inspect the filter assembly. Make certain that the filter is touching the inside of the frame throughout its entire length and that no air gaps exist. Ensure that the filter assembly is set inside the channel on the topside and is resting in the filter holder. Make sure that the filter wire side is up.
5. Inspect the filter holder to ensure the weatherstripping is providing a tight fit around the perimeter of the rain shield.
6. Replace the filter cover plate if that was removed (front access).

9.9 Fans

Fans are provided to control the heat buildup generated by the electronic components. One cooling fan is provided for every three modules (8x16 display modules).

Check fans after the display has been in operation for 1,500 hours—and every 1,500 hours thereafter—to ensure the display is being cooled properly. Fans should be checked more often if the display is located in a dusty or harsh environment (i.e., along a gravel road with dust-laden air).

As noted previously, 1,500 hours is equivalent to 83 days if the display is operated for 18 hours a day and the power to the display is turned off when not in use. (This ensures that the fans are not operating when the display is not running.) If the displays is running non-stop, 24 hours a day, 1,500 hours is equivalent to 62 days.

Each time a module is removed, take time to inspect the fans.

1. Check the fan blades for dirt and debris. If the fan blades have a large accumulation of dirt and debris, this indicates that the filters need to be changed more often. Fan blades must be kept clean to maintain fan efficiency and ensure proper cooling.
2. Spin the fan blades with a pen or pencil to ensure that the bearings are free and the fan is still in balance.

After 10 percent of the fans have been replaced, Daktronics recommends replacing all fans to reduce associated maintenance costs that may incur with increased heat buildup from fan failure.

A fan-testing power cord is available for checking fan operation. Plug the test cord into the questionable fan and plug the other end into a 110 V outlet. If the fan does not turn or does not operate smoothly, replace it. *Use extreme caution during this testing, since the fan blades are exposed!*

K Note: If the display is not in operation, turn power off to conserve energy and extend the life of both the fans and electronic components.

9.10 Lens Airflow

Check airflow through the lenses periodically to ensure there are no obstructions in the lens exhaust holes. Airflow is necessary to cool the lenses and lamps adequately (refer to **Figure 7**). The interior of the module should be kept clean to prevent a buildup of dust on the lenses. Use an air hose and a vacuum cleaner to keep the display clean.

Inspect the cabinet seal periodically to make certain it is sealing properly. If leaks are detected, repair or replace the pile weather stripping seal in the area where the leak occurred. Use the following method to check both the airflow through the lenses and the cabinet seal:

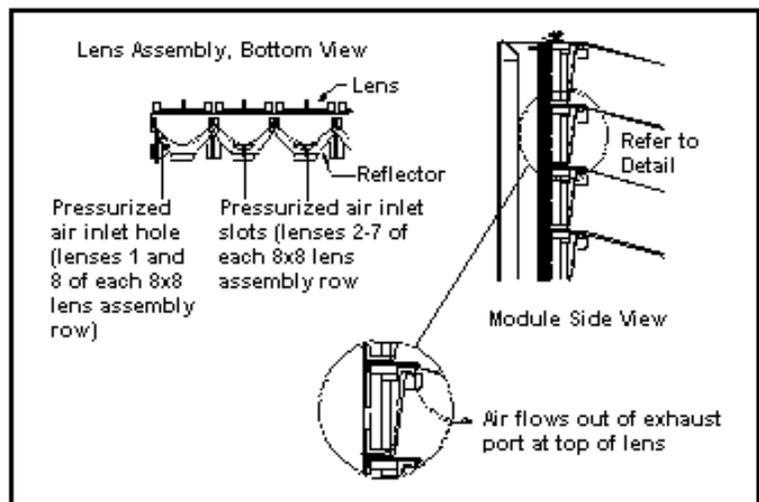


Figure 7: Lens Airflow

1. Direct smoke toward the fan inlet and observe where the smoke exits.
2. Check all around the cabinet and the lenses.
3. If smoke does not exit a particular group of lenses, remove the lenses to clean out any debris, replace the lenses and re-test.

9.11 Structural Inspection

Perform a visual inspection annually. Check the paint and look for possible corrosion, especially at footings, structural tie points, and ground rods. Fasteners should be checked and tightened or replaced as required.

At least once a year, check the inside of the display for signs of water intrusion (for example, water stain marks). Water can enter a display where weatherstripping has come loose or deteriorated. Fasteners may also have loosened, allowing moisture to enter through seams in the display. Check the top of the display around the eyebolts to insure that no moisture may enter through loosened fixtures. Check electronic components closely for signs of corrosion.

9.12 Cleaning the Signal Connectors

If it becomes necessary to remove or replace a signal cable, clean the plugs and the circuit board jacks with Deoxit™ (refer to **Section 9.14** for the part number). Inspect and clean the jacks and plugs thoroughly to ensure the absence of any foreign matter. The presence of dirt or water may cause signal interconnect problems.

After the parts are cleaned, push the plug into a jar of Cailube™ (refer to **Section 9.14** for the part number), ensuring that the paste wets the plug to a depth of at least $\frac{1}{8}$ " on all four sides. Also check to make sure that all of the pin holes of the plug are filled with paste and that sufficient paste is present to form a "V" on the end of the plug. There should be enough paste on the end of the plug to form a weatherproof seal (from paste pushed out around the jack) when the plug is inserted into the circuit board jack.

Deoxit™ is the electrical contact cleaner in an aerosol can, and Cailube™ is the electrical contact lubricant and protector paste in a 1 oz jar. Both can be found in the *Tool Kit Accessories* package. Cailube also comes in an 8 oz jar (refer to **Section 9.14** for the part number). If you need additional supplies, contact Customer Service for ordering information.

9.13 Troubleshooting

This section contains some symptoms that may be encountered in team name message centers. For these symptoms, possible causes and corrective actions are suggested. This list does not include every possible problem, but does represent some of the more common situations that may occur. Refer to **Section 8.9** for a list of potential scoreboard problems.

Symptom/Condition	Possible Cause/Remedy
<i>One or more lamps on display will not light.</i>	<ul style="list-style-type: none">■ Replace lamp■ Replace socket■ Replace lampbank
<i>One or more lamps will not turn off.</i>	<ul style="list-style-type: none">■ Check for foreign objects on PC board■ Replace lampbank

Symptom/Condition	Possible Cause/Remedy
<i>Entire module does not work.</i>	<ul style="list-style-type: none"> ▪ Check signal connection (ribbon cable) ▪ Check power connections ▪ Check transformer fuse on panel ▪ Replace lampbank
<i>Section of display does not work.</i>	<ul style="list-style-type: none"> ▪ Check appropriate main fuse or breaker.
<i>Entire display does not work.</i>	<ul style="list-style-type: none"> ▪ Check 120 V AC input power to sign. ▪ Check all signal connections. ▪ Check controller output.

9.14 Replacement Parts List

Refer to the following table for Daktronics scoreboard replacement parts. Refer to **Section 8.8** for a listing of parts required for the service of the scoreboards. Refer to **Section 1.4** for Daktronics Exchange and Repair and Return programs.

Part Description	Daktronics Part No.
Monochrome lens/reflective assembly	0A-1176-0002
Vertical shift interface board (Attached to master module; operated by All Sport® Controller)	0P-1176-0006
Current loop interface (CLI) board (Attached to master module; operated by ProSport® controller)	0P-1176-0004
Controller board	0A-1146-0007
Electrical contact lubricant and protector (paste) 8oz jar	CH-1021
Fan, 120 V, 250 CFM	B-1019
Fan filter	L-98614
Fuse, MDL-7, 1/4" by 1 1/4", Slow-Blo	F-1031
Lamp; T-3 1/4, wedge base, xenon-filled	DS-1241
8x16-10 lampbank; 1.5" S1600 monochrome	0P-1176-0002
Lens, mono white	DS-1235
Socket; T3 1/4 wedge	X-1209
Tool kit accessories (includes the following)	0A-1176-0008
<ul style="list-style-type: none"> ▪ Electrical contact cleaner (spray can) 	CH-1015
<ul style="list-style-type: none"> ▪ Electrical contact lubricant and protector (paste) 1 oz jar 	CH-1019
<ul style="list-style-type: none"> ▪ Front access module remover tool 	0M-95442
<ul style="list-style-type: none"> ▪ Lamp extractor 	TH-1032
<ul style="list-style-type: none"> ▪ Lamp voltage tester 	0P-1089-0010

Part Description	Daktronics Part No.
<ul style="list-style-type: none"> ▪ Rear access module remover tool 	0M-95441
<ul style="list-style-type: none"> ▪ 0.032 feeler gauge, weatherstripping 	0M-69133
Transformer, 120 V	T-1107
Weatherstripping, pile	HS-1149
Weatherstripping, tape	HS-1051
Weatherstripping, open cell, filter assembly	HS-1039

9.15 TNMC Exchange and Repair and Return Programs

Refer to **Section 1.4** for information concerning Daktronics Exchange and Repair and Return programs.

Section 10: Scoreboard Options

The following options are available for Daktronics outdoor scoreboards to make the displays more adaptable to scoring and timing needs:

- Team name caption kits for certain models.
- Trumpet horn for football and soccer.
- Remote start/stop console.

10.1 Team Name Captions – Models BA-624, BA-1518 and BA-1524

Reference Drawing:

Caption Changing **Drawing A-44549**

The team name caption kit contains hardware for one caption only and consists of an upper caption retainer, a lower caption retainer, a changeable caption panel, and screws.

The standard Guest and Home 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 retainers are not already present on your scoreboard, attach the retainers included with your caption kit as shown on **Drawing A-44549**.

To install a changeable panel:

1. Insert the top of the panel into the upper retainer.
2. Lift the panel all the way up into the retainer.
3. Insert the bottom of the panel into the lower retainer.

Reverse this procedure to remove the caption panel.

An optional caption changer is available for installing and removing panels from the ground. Each panel is punched with keyholes. Screw-heads on the crossbar at the top of the caption changer fit into the keyholes. The caption changer pole consists of three sections and an adjusting ring that may be loosened to extend the pole. After extending the pole to the desired length, tighten the ring.

CAUTION

- The aluminum caption changer can conduct electricity. Do not use it within 20' of power lines.
- Be careful when using the caption changer in high or gusting winds. Wind may catch the panel and unhook it from the changer.
- The surface area of the caption panel could act as a sail, making it difficult to keep a grip on the pole. In high or gusting winds, hold the pole very tightly and be careful to maintain your balance when using the caption changer.

10.2 Trumpet Horn

Reference Drawings:

Horn Installation	Drawing A-44197
Final Assembly, 12V DC Horn Mounting.....	Drawing A-83333
Schematic; Football Trumpet Horn	Drawing A-83329

The trumpet horn options are available only with scoreboards that have clocks. The two types of trumpet horns are:

- Internally mounted AC trumpet horn.
- Externally mounted DC trumpet horn.
-

AC Trumpet Horn Installation (Internally Mounted)

Caution: Disconnect the power before installing the horn!

Refer to **Drawing A-44197**.

1. Unscrew and remove the trumpet from the horn body.
2. Mount the horn body to the bracket with the $\frac{1}{4}$ " bolts and nuts provided. Be sure that the horn is oriented so that the wire opening is at the bottom.
3. Attach the relay to the bracket with the #10 hardware.
4. Mount the ground lug below the horn with a $\frac{1}{4}$ " bolt and nut.
5. Insert the green wire from the horn into the ground lug and tighten.
6. Connect one black wire from the horn to the white wire from the relay.
7. Connect the other black wire to the red wire from the relay. Use the wire nuts provided to make this connection.
8. Locate the horn panel in the scoreboard. Refer to the component location drawings in **Section 4**. Note that there is a 2" knockout in this panel.
9. Loosen the screws securing the bottom of the panel and swing it open.
10. Mount the bracket to the bottom frame member using #10 screws. There are two holes in the frame for this purpose.
11. Connect the wires with a white plug to the mating jack marked **HORN** on the left side of the entrance enclosure.
12. Close and secure the access panel.
13. Screw the trumpet into the horn body. The trumpet will tilt down about 10 degrees to allow moisture drainage.
14. Connect to power to the scoreboard.
15. Connect the control console to the scoreboard.
16. Test the horn by pressing the key labeled **HORN** on the control console.

DC Trumpet Horn Installation (Externally Mounted)

Caution: Disconnect the power before installing the horn!

Refer to **Drawing A-83333**.

1. Locate the horn panel in the scoreboard. Refer to the component location drawings in **Section 4**. Note that there is a 2" knockout in this panel.
2. Loosen the screws securing the bottom of the panel and swing it open.
3. Drill two $\frac{5}{32}$ " holes 4" apart near the entrance enclosure.

4. Attach the horn enclosure to the inside of the scoreboard over the $\frac{5}{32}$ " holes using #10 tapping screws.
5. Attach the plate assembly to the horn enclosure using the #10 hardware provided.
6. Remove the 2" knockout in the horn panel.
7. Drill two $\frac{7}{32}$ " on either side of the knockout using the template **Drawing A-83502**. If no knockout exists, use the template to drill one $\frac{8}{32}$ " hole and two $\frac{7}{32}$ " holes in the panel.
8. Thread the two gray wires from the horn through the top of the mounting angle.
9. Attach the horn to the mounting angle using the #10 hardware provided
10. Insert the bushing into the $\frac{3}{8}$ " hole in the mounting angle.
11. Attach the horn/angle assembly to the panel over the 2" knockout and $\frac{7}{32}$ " holes using the #10 hardware provided.
12. Open the panel and remove the cover from the horn enclosure.
13. Use the wire nuts provided to one gray wire from the horn to the black wire from the plate assembly. Connect the second gray wire from the horn to the red wire from the plate assembly.
14. Connect the wires with a white plug to the mating jack marked **HORN** on the left side of the entrance enclosure.
15. Close and secure the access panel.
16. Connect to power to the scoreboard.
17. Connect the control console to the scoreboard.
18. Test the horn by pressing the key labeled **HORN** on the control console.

Appendix A: Reference Drawings

A Drawings

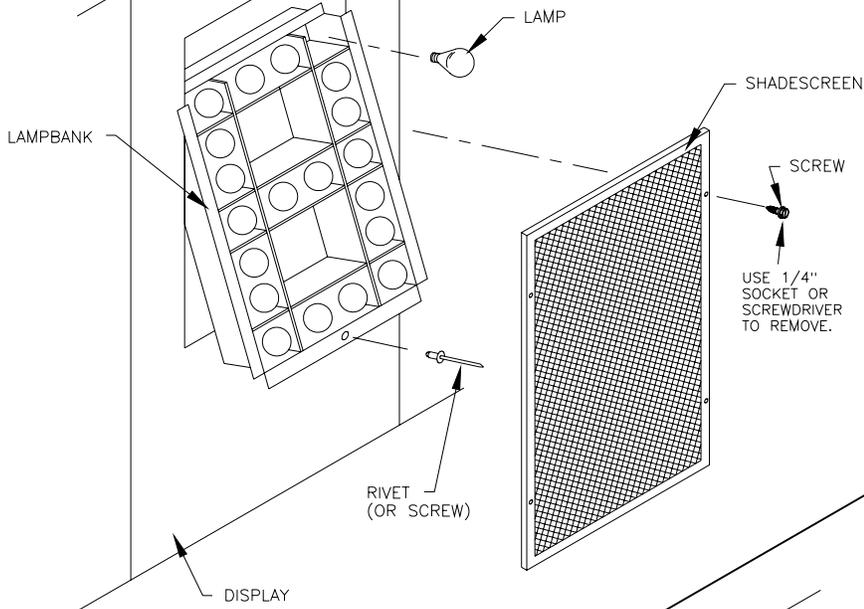
Digit Service.....	Drawing A-27674
Horn Installation.....	Drawing A-44197
Display Mounting.....	Drawing A-44412
Lifting Scoreboard.....	Drawing A-44548
Caption Changing.....	Drawing A-44549
Digit Segments, 3x5 and 4x7.....	Drawing A-46653
Ad Panel Mounting.....	Drawing A-52187
Assembly, Ad Panel, BA-515.....	Drawing A-52585
Ad Panel Mounting, BA-518.....	Drawing A-52811
Installation Specifications, BA 515.....	Drawing A-55003
Installation Specifications, BA 518.....	Drawing A-55004
Installation Specifications, BA 718.....	Drawing A-55005
Installation Specifications, BA 618.....	Drawing A-55006
Installation Specifications, BA 624.....	Drawing A-55007
Installation Specifications, MS 918.....	Drawing A-55009
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Correct Lens Position, 1-1/2".....	Drawing A-75204
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Final Assembly, 12V DC Horn Mounting.....	Drawing A-83333
Lens Assy, Weather Stripping Location.....	Drawing A-91100
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Schematic; 1 Driver.....	Drawing A-124293
Schematic; 1 Driver Overseas.....	Drawing A-124296
Schematic; 1 Driver 8 Column.....	Drawing A-124298
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Schematic, 832-10 TNMC.....	Drawing A-125214
Schematic, 848-10TNMC.....	Drawing A-125216
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Component Locations, BA-515.....	Drawing A-126083
Component Locations, BA-518.....	Drawing A-126084
Component Locations, BA-618.....	Drawing A-126221
Component Locations, BA-624.....	Drawing A-126285
Component Locations, BA-718.....	Drawing A-126306
Component Locations, BA-1018.....	Drawing A-126353
Component Locations, TI-218.....	Drawing A-126364
Component Locations, TI-418.....	Drawing A-126372

Component Locations, CT-2001	Drawing A-126429
Component Locations, CT-2002	Drawing A-126430
Component Locations, FB-824	Drawing A-126431
Component Locations, MS-915	Drawing A-126432
Component Locations, SO-918	Drawing A-126433
Component Locations, TI-2003.....	Drawing A-126434
Component Locations, MS-2002 w/TNMC	Drawing A-127193
Installation Specifications, MS-2002	Drawing A-127195
Component Locations, MS-2002	Drawing A-127235
Single-Section Scoreboard Models w/TNMC.....	Drawing A-127262
Component Locations, SO-824	Drawing A-127285
Installation Specifications, FB-824 & SO-824	Drawing A-127287
Component Locations, MS-2004	Drawing A-128047
Incandescent Driver Power Up Self-Test.....	Drawing A-128283
Power Up Self Test on a FB-1424	Drawing A-128301
Installation Specifications, MS-2004	Drawing A-128788
Component Locations, MS-2006 w/TNMC	Drawing A-132960
Installation Specifications; MS-2011 w/TNMC	Drawing A-135414
Installation Specifications, MS-2006	Drawing A-135575
Component Locations, MS-2002 w/TNMC & 40W Lamps	Drawing A-135738
Component Locations, FB-2340	Drawing A-137679
Component Locations; MS-2011	Drawing A-138889
Installation, TI-2003	Drawing A-139316
Schematic; 1 Driver 240V	Drawing A-139639
Schematic, 1 8 Col Driver 240V	Drawing A-139733
Installation Specifications, SO-2008	Drawing A-149074
Component Locations; SO-2008 w/ 832-12 TNMC	Drawing A-150127
Component Locations; BA-2004	Drawing A-152733
Installation Specifications; BA-2004 & BA-2005	Drawing A-152777
Single Section Scoreboard Models.....	Drawing A-152945
Component Locations, BA-2003	Drawing A-158315
Installation Specifications, BA-2003.....	Drawing A-158322
Installation Specifications; TI-2003	Drawing A-169367
Installation Specifications; TI-218	Drawing A-169376
Installation Specifications; TI-418	Drawing A-169380
Installation Specifications; FB-2340.....	Drawing A-169388

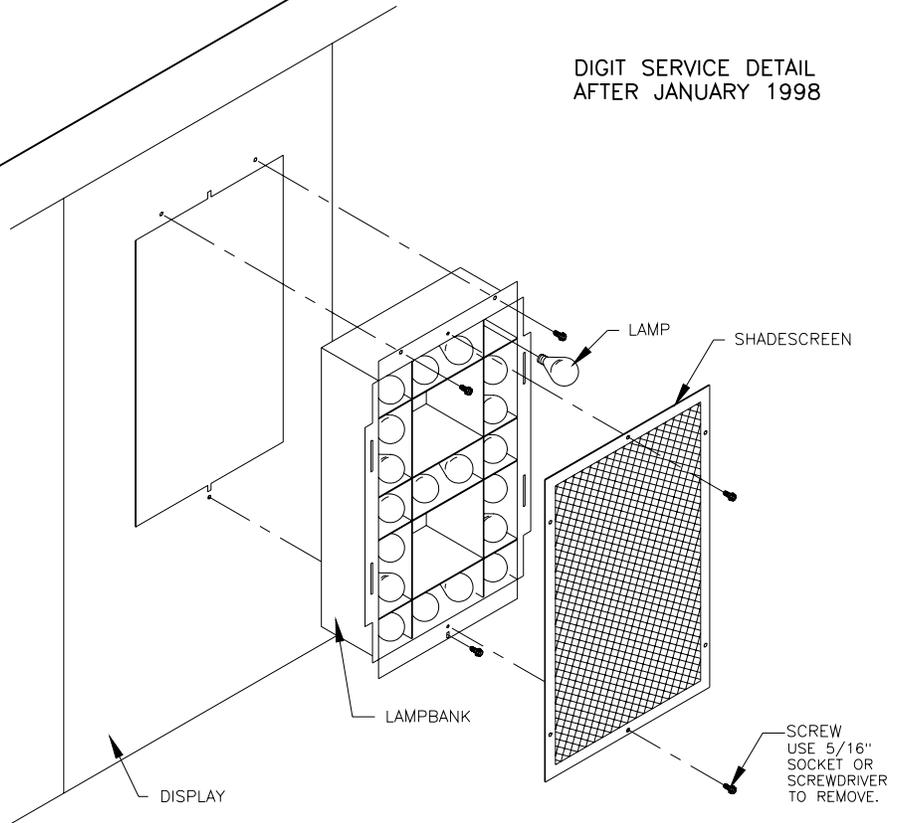
B Drawings

Schematic; 1 Drvr with 32 or 48-10 TNMC	Drawing B-127394
Schematic; 2 Drvrs with 32 or 48-12 TNMC	Drawing B-132144
Schematic; BA-2004	Drawing B-155111

DIGIT SERVICE DETAIL
BEFORE JANUARY 1998



DIGIT SERVICE DETAIL
AFTER JANUARY 1998

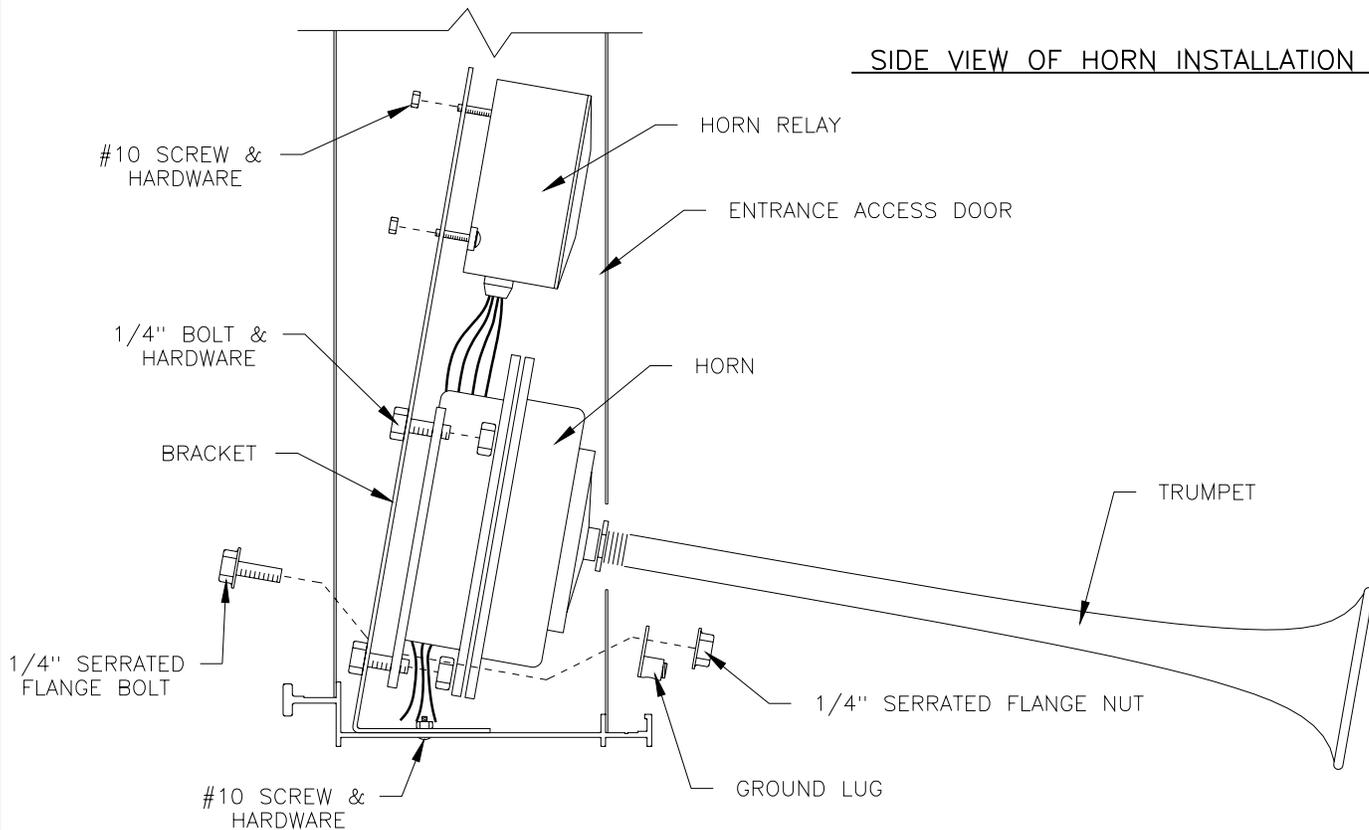


DAKTRONICS, INC. BROOKINGS, SD 57006

REV.	DATE	DESCRIPTION	BY	APPR.
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1	5 MAR 91	CHANGED FROM "B" TO "A" SIZE DWG.	CF	

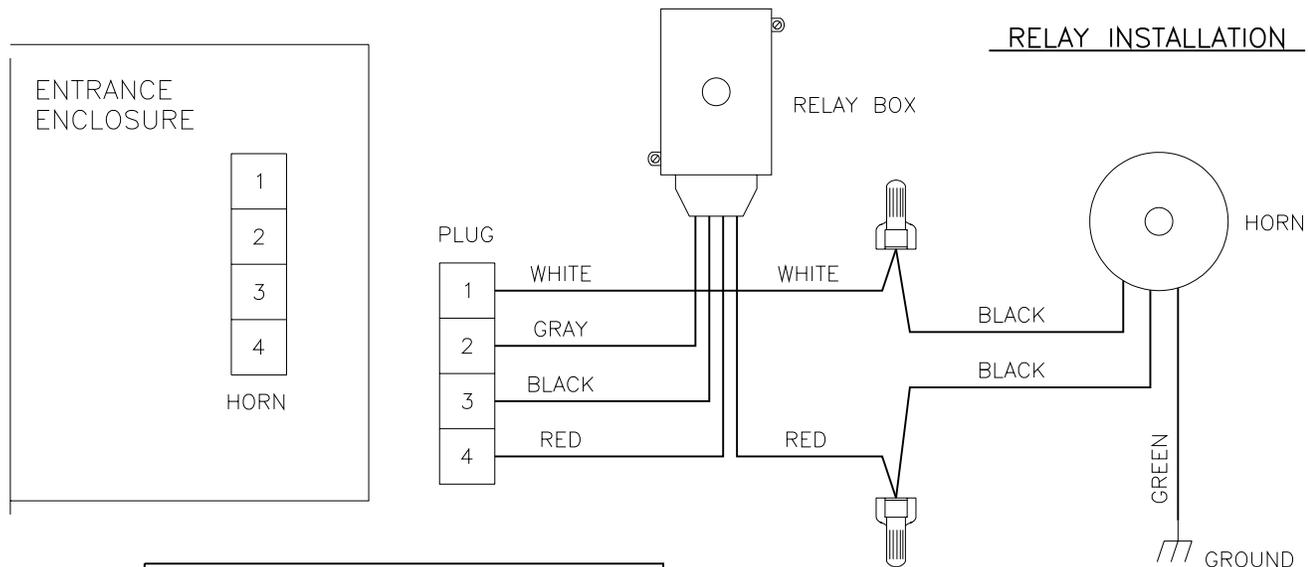
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TITLE:	DIGIT SERVICE		
DES. BY:	DRAWN BY:	TERRY P.	DATE: 31 JULY 86
REVISION	APPR. BY:	1064-E10A-27674	
	SCALE:	1=15	

SIDE VIEW OF HORN INSTALLATION



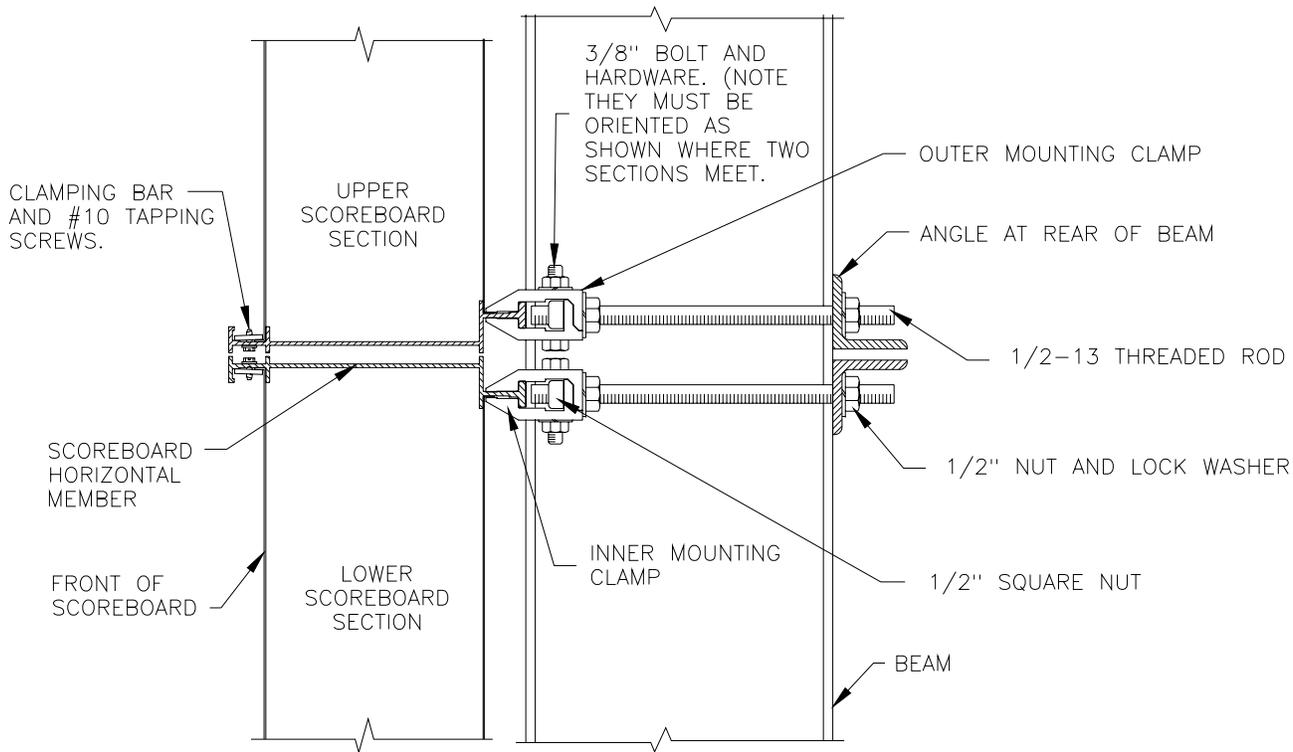
THIS SCHEMATIC IS FOR SCOREBOARDS PROIR TO ALLSPORT 5000 PROTOCOL.
SEE DWG A-132173 FOR SCOREBOARDS USING AN ALLSPORT 5000 PROTOCOL.

RELAY INSTALLATION



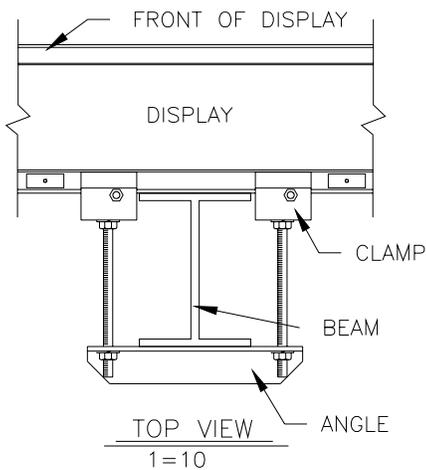
NOTE:
HORN IS TO BE MOUNTED BEHIND ACCESS DOOR THAT HAS 2" DIAMETER KNOCKOUT.

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: OUTDOOR SCOREBOARDS				
TITLE: HORN INSTALLATION				
DES. BY: JHEIDERSCHIEDT DRAWN BY: JHEIDERSCHIEDT DATE: 16AUG90				
01	11JAN01	ADDED NOTE ABOUT AS 5000 PROTOCOL RELATING TO SCHEMATIC	MCOPL	
REV.	DATE	DESCRIPTION	BY	APPR.
		REVISION		APPR. BY: AVB
		SCALE: 1=4		1091-E10A-44197



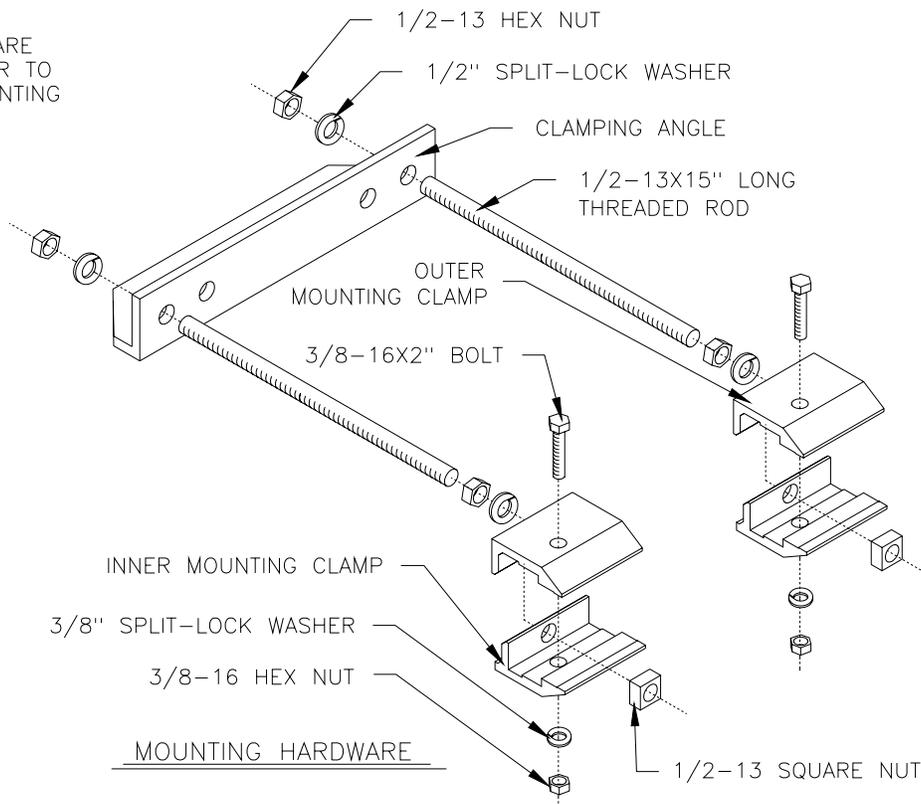
SIDE VIEW

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



TOP VIEW
1=10

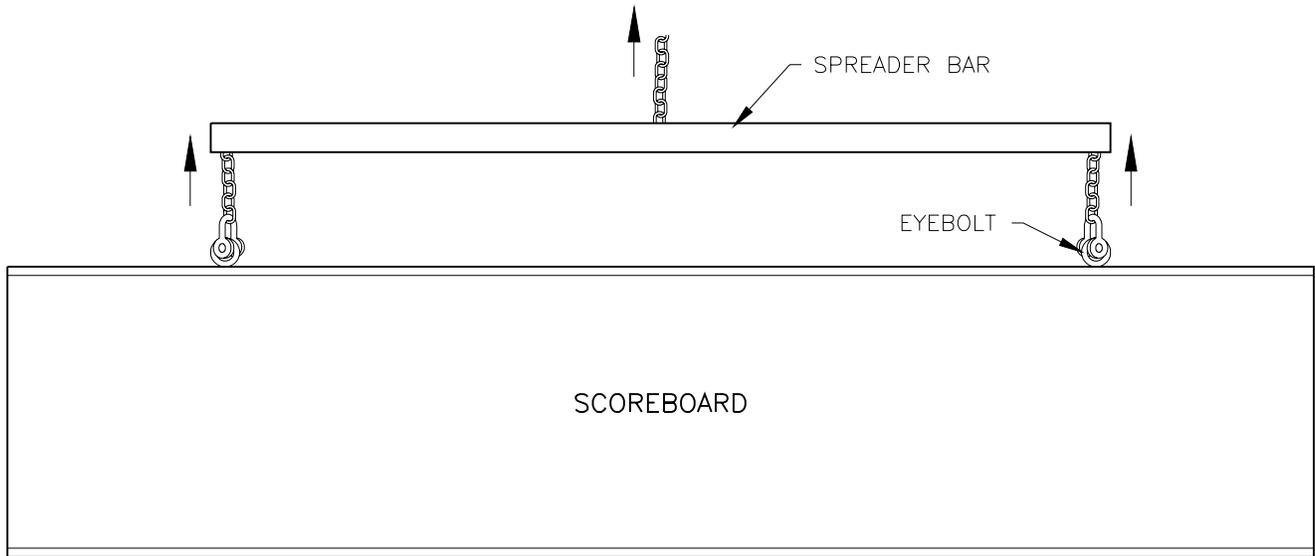
- THREADED RODS RUN ALONG BOTH SIDES OF BEAM.
- THEY DO NOT PASS THROUGH THE FLANGES OF THE BEAM.
- NO DRILLING IS NECESSARY.



MOUNTING HARDWARE

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR SCOREBOARDS	
TITLE: DISPLAY MOUNTING	
DES. BY: JHEIDERSCHIEDT DRAWN BY: JHEIDERSCHIEDT DATE: 29AUG90	
REVISION	APPR. BY:
	SCALE: 1=5
1091-R10A-44412	

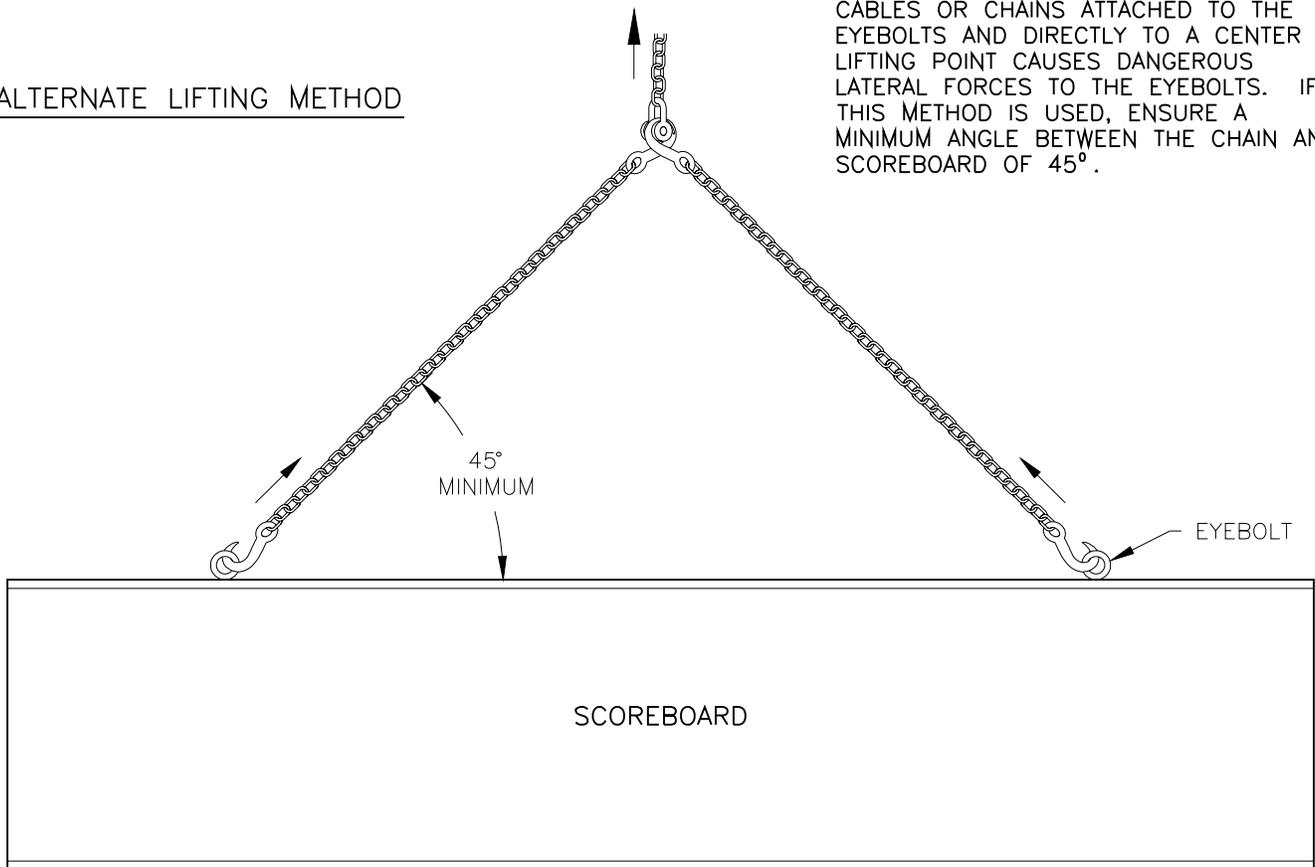
REV.	DATE	DESCRIPTION	BY	APPR.



PREFERRED LIFTING METHOD

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

ALTERNATE LIFTING METHOD

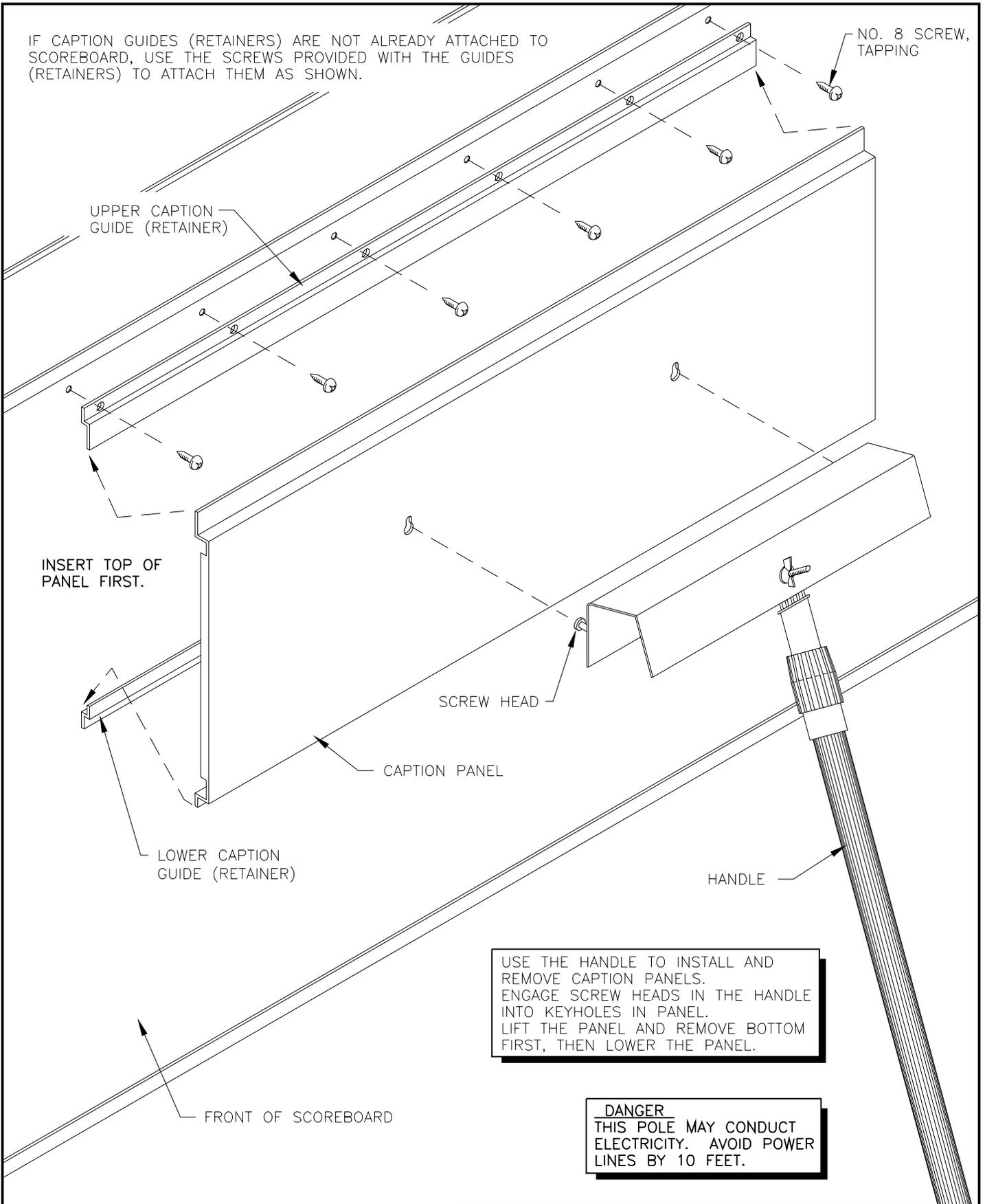


CABLES OR CHAINS ATTACHED TO THE EYEBOLTS AND DIRECTLY TO A CENTER LIFTING POINT CAUSES DANGEROUS LATERAL FORCES TO THE EYEBOLTS. IF THIS METHOD IS USED, ENSURE A MINIMUM ANGLE BETWEEN THE CHAIN AND SCOREBOARD OF 45°.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR SCOREBOARDS			
TITLE: LIFTING SCOREBOARD			
DES. BY:	DRAWN BY: AVB	DATE: 12SEP90	
REVISION	APPR. BY:	1091-R10A-44548	
	SCALE: NONE		

1	17 MAY 01	ADDED MINIMUM ANGLE TO ALTERNATE LIFTING METHOD; CHANGED CORRECT TO PREFERRED METHOD AND WRONG TO ALTERNATE METHOD	TWEBER	
REV.	DATE	DESCRIPTION	BY	APPR.

IF CAPTION GUIDES (RETAINERS) ARE NOT ALREADY ATTACHED TO SCOREBOARD, USE THE SCREWS PROVIDED WITH THE GUIDES (RETAINERS) TO ATTACH THEM AS SHOWN.



USE THE HANDLE TO INSTALL AND REMOVE CAPTION PANELS. ENGAGE SCREW HEADS IN THE HANDLE INTO KEYHOLES IN PANEL. LIFT THE PANEL AND REMOVE BOTTOM FIRST, THEN LOWER THE PANEL.

DANGER
THIS POLE MAY CONDUCT ELECTRICITY. AVOID POWER LINES BY 10 FEET.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR SCOREBOARDS

TITLE: CAPTION CHANGING

DES. BY:

DRAWN BY: AVB

DATE: 19SEP90

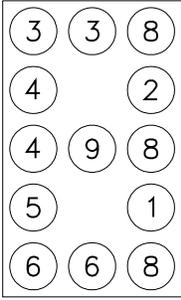
REVISION

APPR. BY:

SCALE: NONE

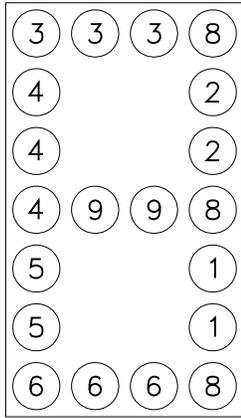
1091-E10A-44549

1	22AUG91	CORRECTED CAPTION CHANGER ILLUSTRATION TO REFLECT ACTUAL DEVICE.	JLH	
REV.	DATE	DESCRIPTION	BY	APPR.



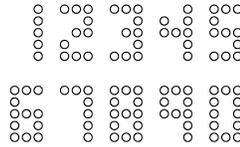
3x5 NUMERAL DIGIT

15" OR 18"

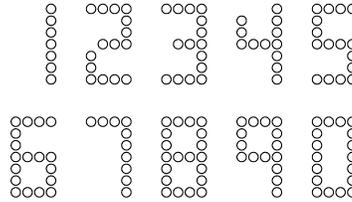


4x7 NUMERAL DIGIT

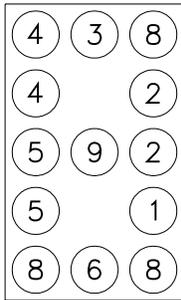
24"



3x5 NUMERALS

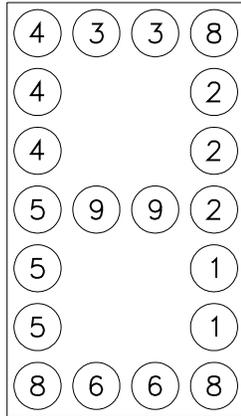


4x7 NUMERALS



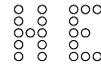
3x5 H/E DIGIT

15" OR 18"

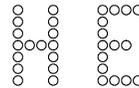


4x7 H/E DIGIT

24"



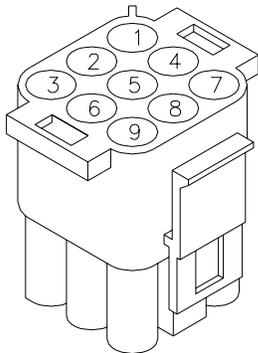
3x5 H & E



4x7 H & E

COLOR CODE

PIN NUMBER	WIRE COLOR	DRIVER SEGMENT
1	ORANGE	C
2	RED	B
3	BROWN	A
4	BLUE	F
5	PINK	E
6	TAN	D
7	BLACK	COMMON
8	GRAY	H
9	VIOLET	G



LAMP DRIVER CONNECTOR

EACH DIGIT IS WIRED TO ONE CONNECTOR PER THE COLOR CODE AT RIGHT

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: **BASEBALL SCOREBOARDS**

TITLE: **DIGIT SEGMENTS, 3x5 AND 4x7**

DES. BY:

DRAWN BY: **AVB**

DATE: **20MAR91**

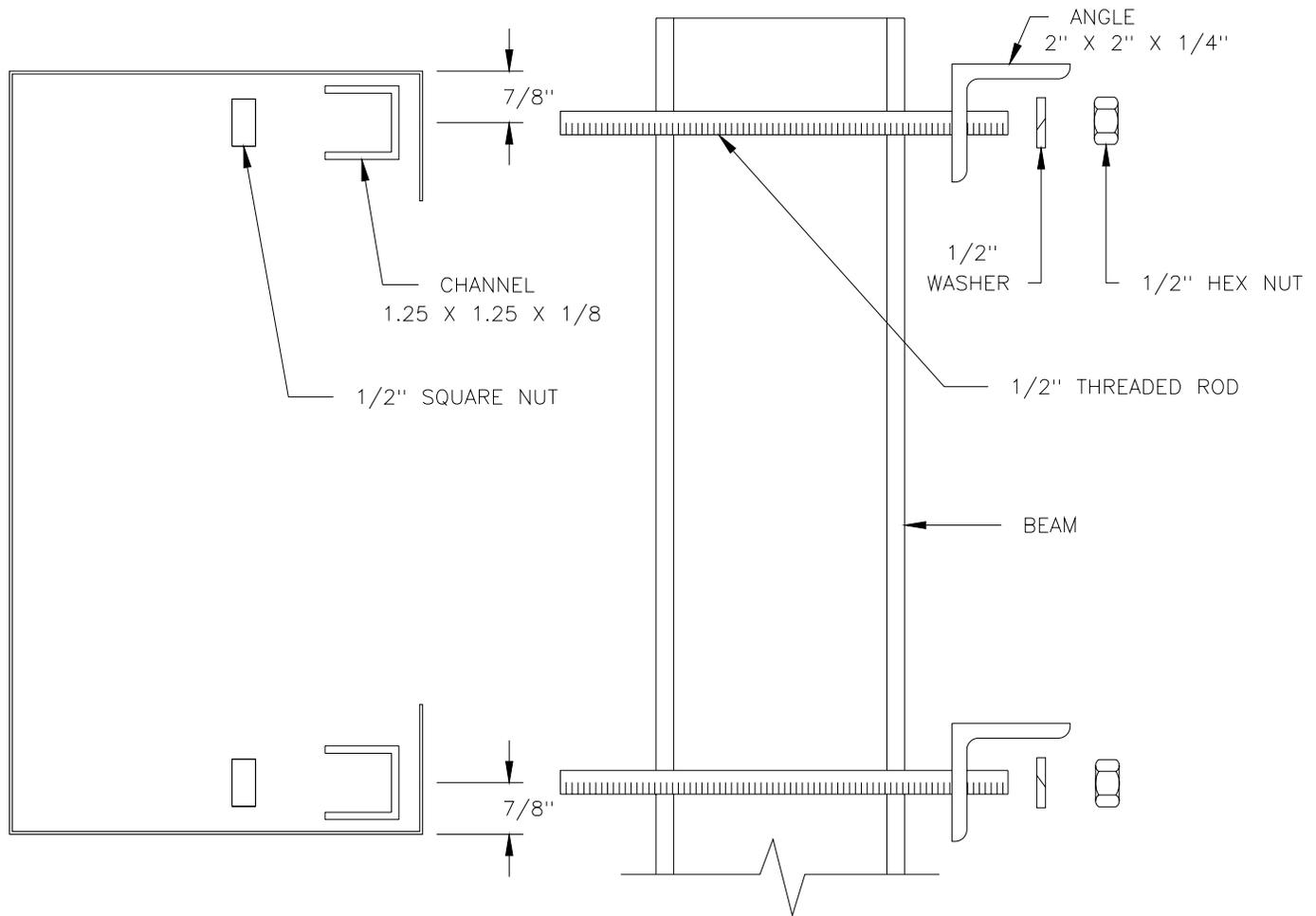
REVISION

APPR. BY:

SCALE: **NONE**

1091-R04A-46653

REV.	DATE	DESCRIPTION	BY	APPR.



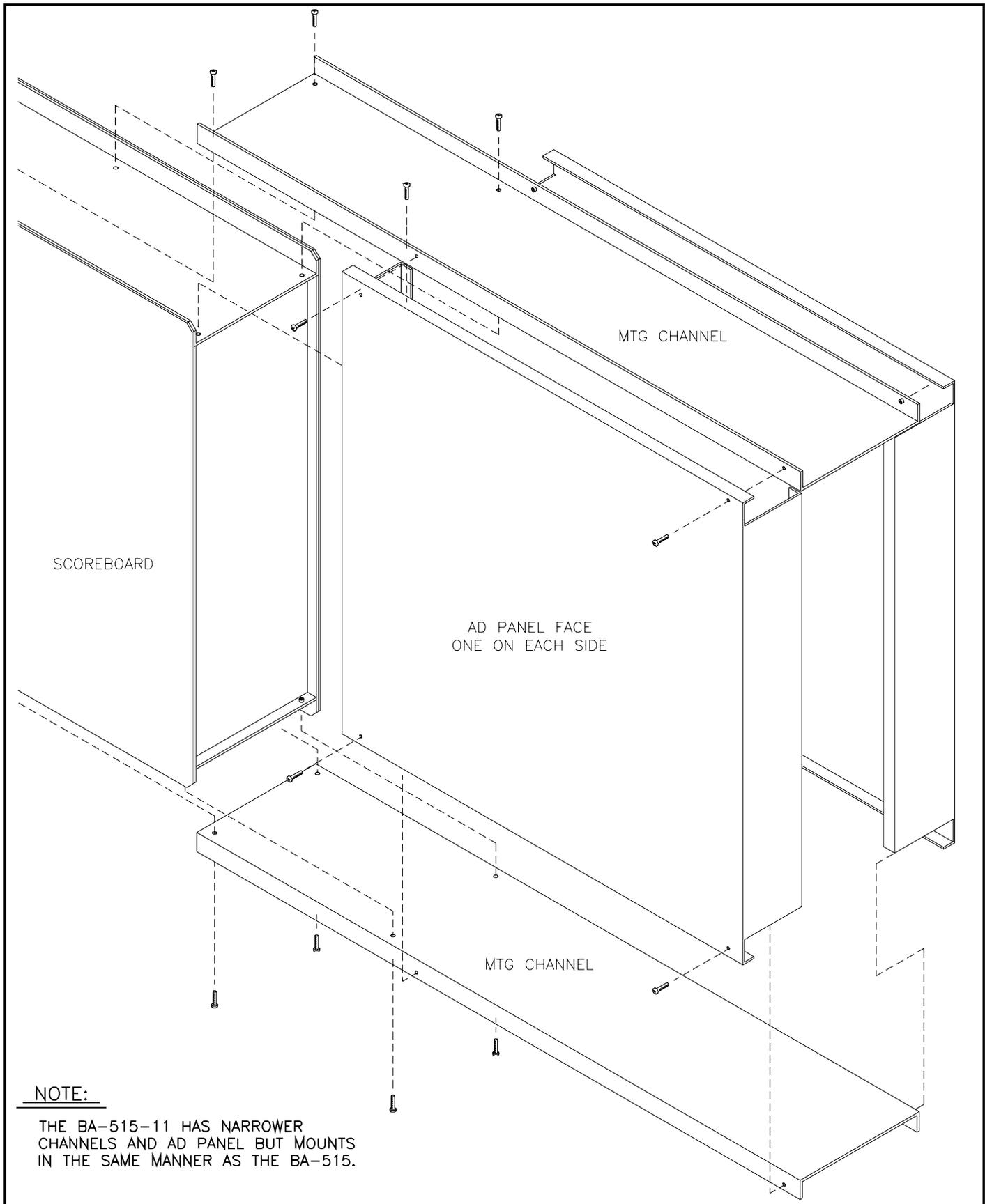
MOUNTING INSTRUCTIONS:

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.

DAKTRONICS, INC. BROOKINGS, SD 57006				
2		13AUG97	INCLUDED INSTRUCTIONS FOR AD PANELS WITH BACKSHEETS.	JAA
1		26MAY93	ADDED DESCRIPTION TEXT TO PARTS.	MGG
REV.	DATE	DESCRIPTION		BY APPR.
PROJ: OUTDOOR SCOREBOARDS				
TITLE: AD PANEL MOUNTING				
DES. BY: .		DRAWN BY: MGUNDERSON		DATE: 09JUL92
REVISION		APPR. BY:		1091-R10A-52187
		SCALE: NONE		

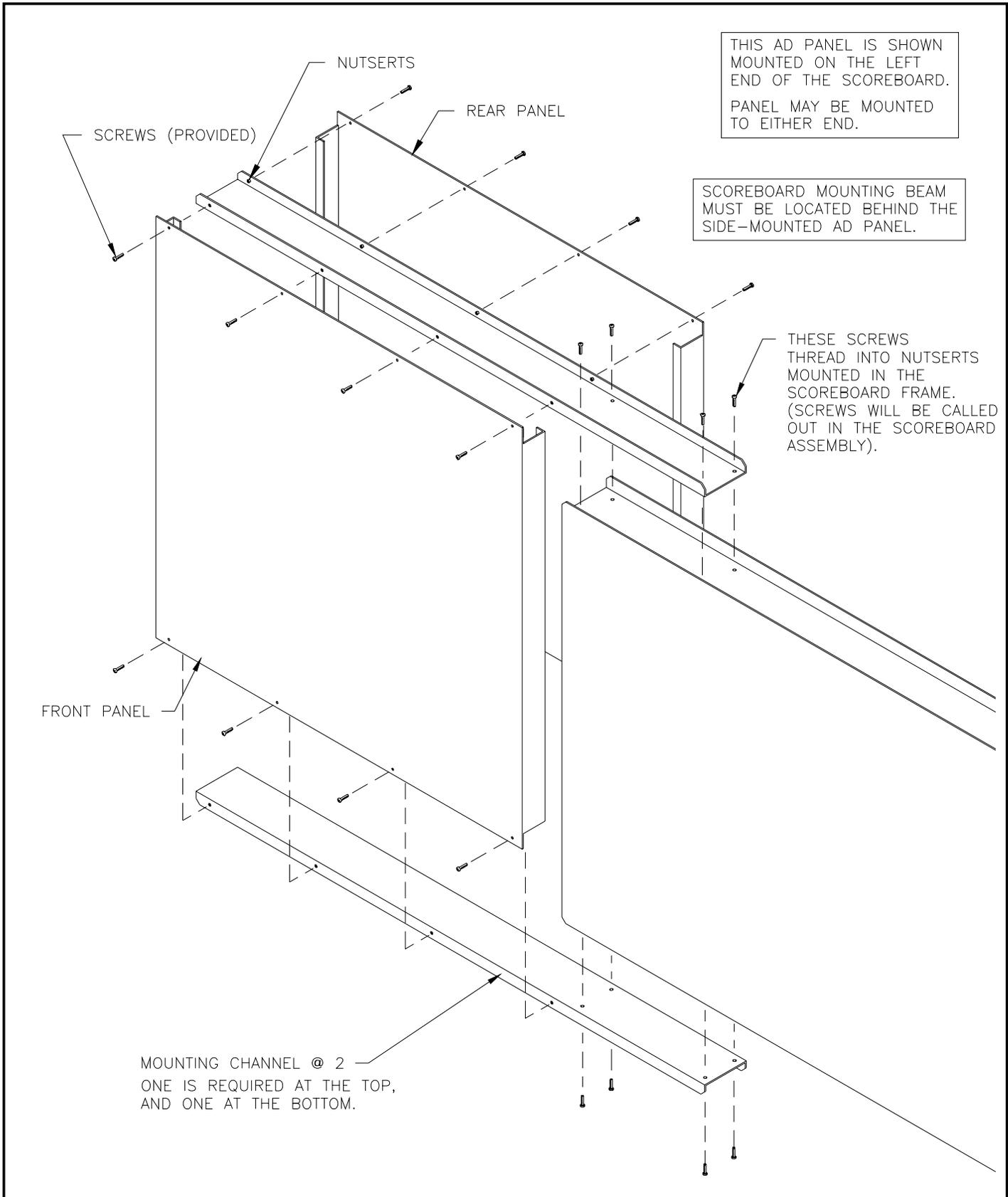


NOTE:

THE BA-515-11 HAS NARROWER CHANNELS AND AD PANEL BUT MOUNTS IN THE SAME MANNER AS THE BA-515.

03	21AUG01	ADDED NOTE FOR BA-515-11	MCOPL	
2	02JUN95	ADDED BACK SIDE AD PANEL FACE.	MGG	
1	29 JUNE 94	MADE FLANGES 0.5 DEEPER.	NJA	
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: BASEBALL SCOREBOARDS			
TITLE: ASSEMBLY, AD PANEL, BA-515 / BA-515-11			
DES. BY: MGUNDE		DRAWN BY: MGUNDE	
		DATE: 07AUG92	
REVISION	APPR. BY:	1091-R10A-52585	
	SCALE: 1 = 10		



REV.	DATE	DESCRIPTION	BY	APPR.
03	17MAR04	ADDED MISC. TEXT	MCOPL	
2	08MAY95	ADDED REAR PANEL, INCREASED FLANGE DEPTH.	AVB	AVB
1	6 JAN 93	REMOVE TOP AND BOTTOM FLANGES ON PANEL. CHANGED FROM 6 SCREWS TO 8 TO ATTACH AD PANEL TO MTG CHANNELS.	C FICK	

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

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: **BASEBALL**

TITLE: **AD PANEL MOUNTING, BA-518**

DES. BY: _____ DRAWN BY: **C FICKBOHM** DATE: **25 AUG 92**

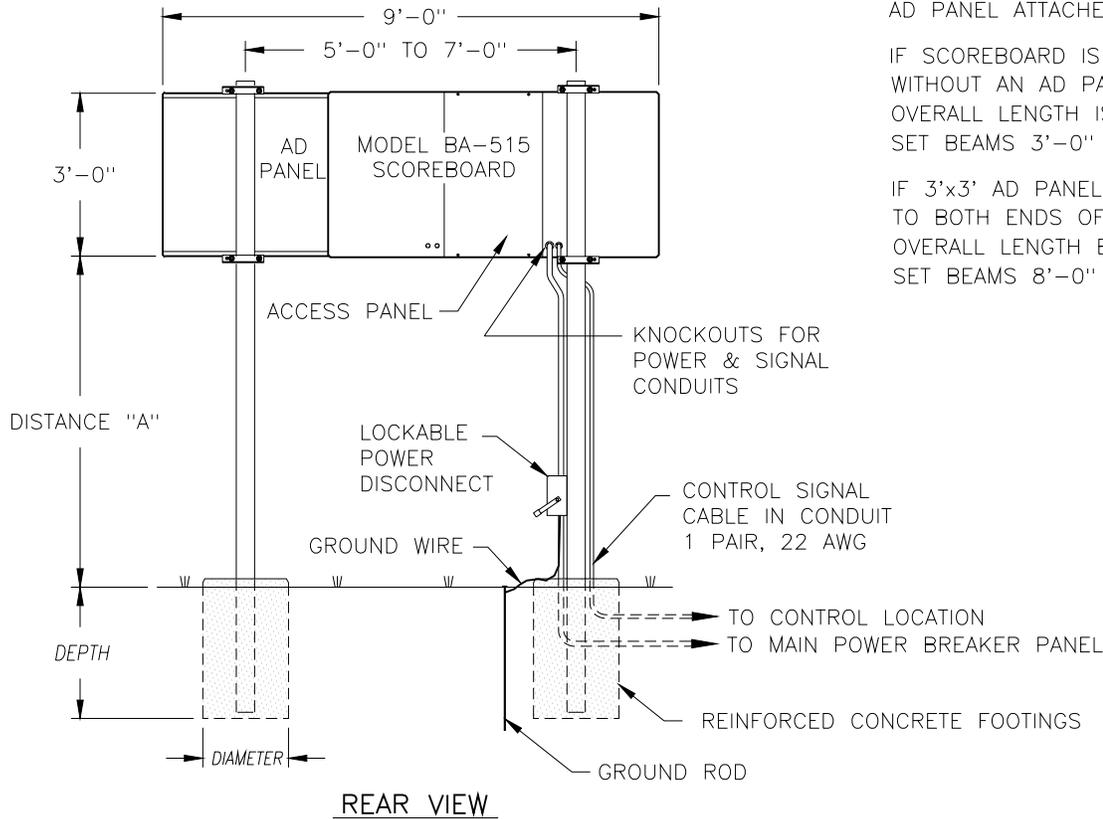
REVISION: **03** APPR. BY: _____ SCALE: **1=15**

1091-E10A-52811

SCOREBOARD IS SHOWN WITH A 3' X 3' AD PANEL ATTACHED TO ONE END.

IF SCOREBOARD IS INSTALLED WITHOUT AN AD PANEL, OVERALL LENGTH IS 6'-0". SET BEAMS 3'-0" TO 5'-0" C-C.

IF 3'x3' AD PANELS ARE ATTACHED TO BOTH ENDS OF THE SCOREBOARD, OVERALL LENGTH BECOMES 12'-0". SET BEAMS 8'-0" TO 10'-0" C-C.



REAR VIEW

MODEL BA-515 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	6'-0" x 3'-0"	BEAM FOOTING	W6x9 2.0' x 3.2'	W10x12 2.5' x 3.3'	W4x13 2.5' x 3.9'
12'-0"	6'-0" x 3'-0"	BEAM FOOTING	W6x12 2.5' x 3.2'	W10x15 2.5' x 3.5'	W6x15 2.5' x 4.1'
14'-0"	6'-0" x 3'-0"	BEAM FOOTING	W4x13 2.5' x 3.4'	W6x15 2.5' x 3.8'	W5x16 2.5' x 4.4'

MODEL BA-515 WITH 3'x3' AD PANEL ON ONE END					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	9'-0" x 3'-0"	BEAM FOOTING	W10x12 2.5' x 3.3'	W10x12 2.5' x 3.7'	W10x15 2.5' x 4.3'
12'-0"	9'-0" x 3'-0"	BEAM FOOTING	W6x12 2.5' x 3.5'	W10x15 2.5' x 3.9'	W10x15 2.5' x 4.6'
14'-0"	9'-0" x 3'-0"	BEAM FOOTING	W6x15 2.5' x 3.8'	W6x15 2.5' x 4.2'	W8x18 2.5' x 4.9'

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

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

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

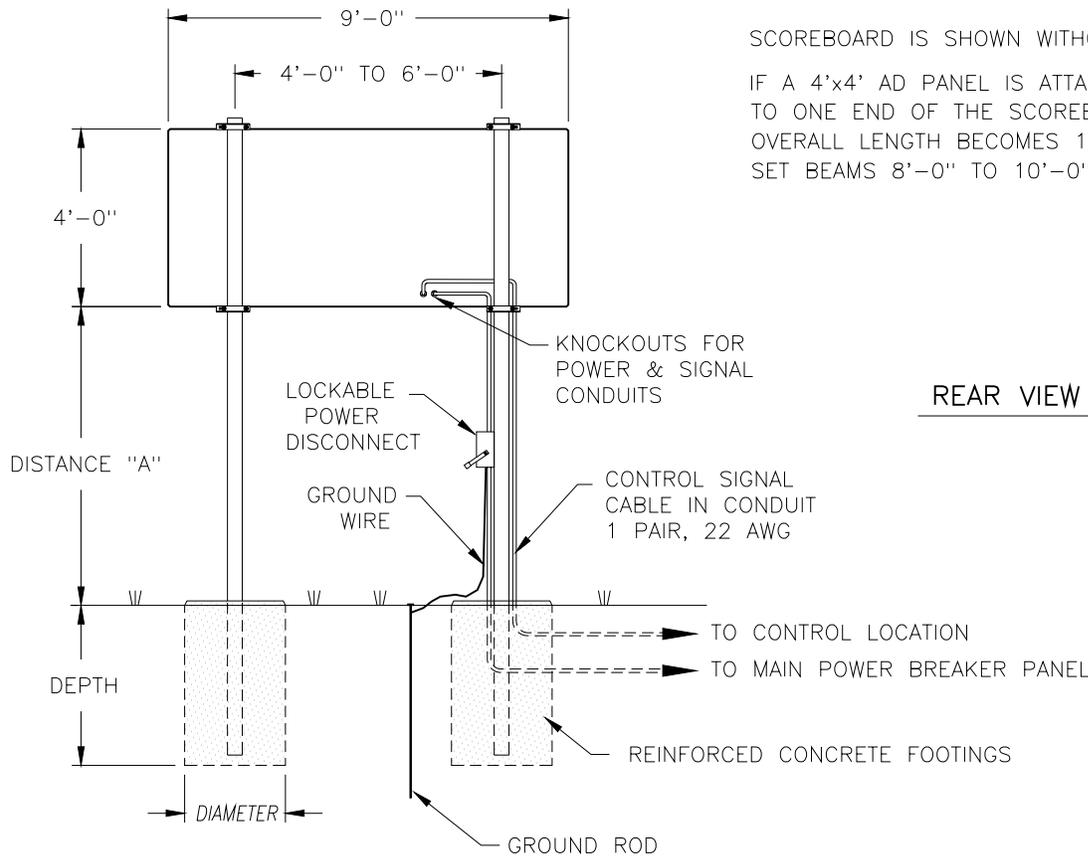
MODEL BA-515 WITH 3'x3' AD PANELS ON BOTH ENDS					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	12'-0" x 3'-0"	BEAM FOOTING	W6x12 2.5' x 3.6'	W4x13 2.5' x 4.0'	W6x15 2.5' x 4.7'
12'-0"	12'-0" x 3'-0"	BEAM FOOTING	W4x13 2.5' x 3.8'	W6x15 2.5' x 4.2'	W5x19 2.5' x 4.9'
14'-0"	12'-0" x 3'-0"	BEAM FOOTING	W6x15 2.5' x 4.1'	W8x18 2.5' x 4.5'	W8x24 2.5' x 5.3'

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DAKTRONICS, INC. BROOKINGS, SD 57006

REV.	DATE	DESCRIPTION	BY	APPR.
02	02JUL04	CHANGED SEVERAL BEAM SIZES	MCOP	
1	14DEC00	REVISED COLUMN SECTIONS & FOOTINGS.	MVD	

PROJ: OUTDOOR SCOREBOARDS	
TITLE: INSTALLATION SPECIFICATIONS, BA-515	
DES. BY: AVB	DRAWN BY: A VANBEMMEL DATE: 05FEB93
REVISION	APPR. BY:
02	SCALE: 1=40
1091-R10A-55003	



SCOREBOARD IS SHOWN WITHOUT AD PANEL.
 IF A 4'x4' AD PANEL IS ATTACHED TO ONE END OF THE SCOREBOARD, OVERALL LENGTH BECOMES 13'-0". SET BEAMS 8'-0" TO 10'-0" C-C.

REAR VIEW

MODEL BA-518 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	9'-0" x 4'-0"	BEAM FOOTING	W6x12 3.0' x 3.4'	W4x13 3.0' x 3.8'	W5x16 3.0' x 4.4'
12'-0"	9'-0" x 4'-0"	BEAM FOOTING	W4x13 3.0' x 3.6'	W6x15 3.0' x 4.0'	W5x19 3.0' x 4.7'
14'-0"	9'-0" x 4'-0"	BEAM FOOTING	W6x15 3.0' x 3.9'	W5x19 3.0' x 4.3'	W8x24 3.0' x 5.0'

MODEL BA-518 WITH 30"-HIGH HORIZONTAL AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	9'-0" x 6'-6"	BEAM FOOTING	W5x16 3.0' x 4.1'	W5x19 3.0' x 4.5'	W8x24 3.0' x 5.3'
12'-0"	9'-0" x 6'-6"	BEAM FOOTING	W5x19 3.0' x 4.3'	W8x24 3.0' x 4.8'	W8x28 3.0' x 5.6'
14'-0"	9'-0" x 6'-6"	BEAM FOOTING	W8x24 3.0' x 4.5'	W8x24 3.0' x 5.0'	W8x31 3.0' x 5.9'

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

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

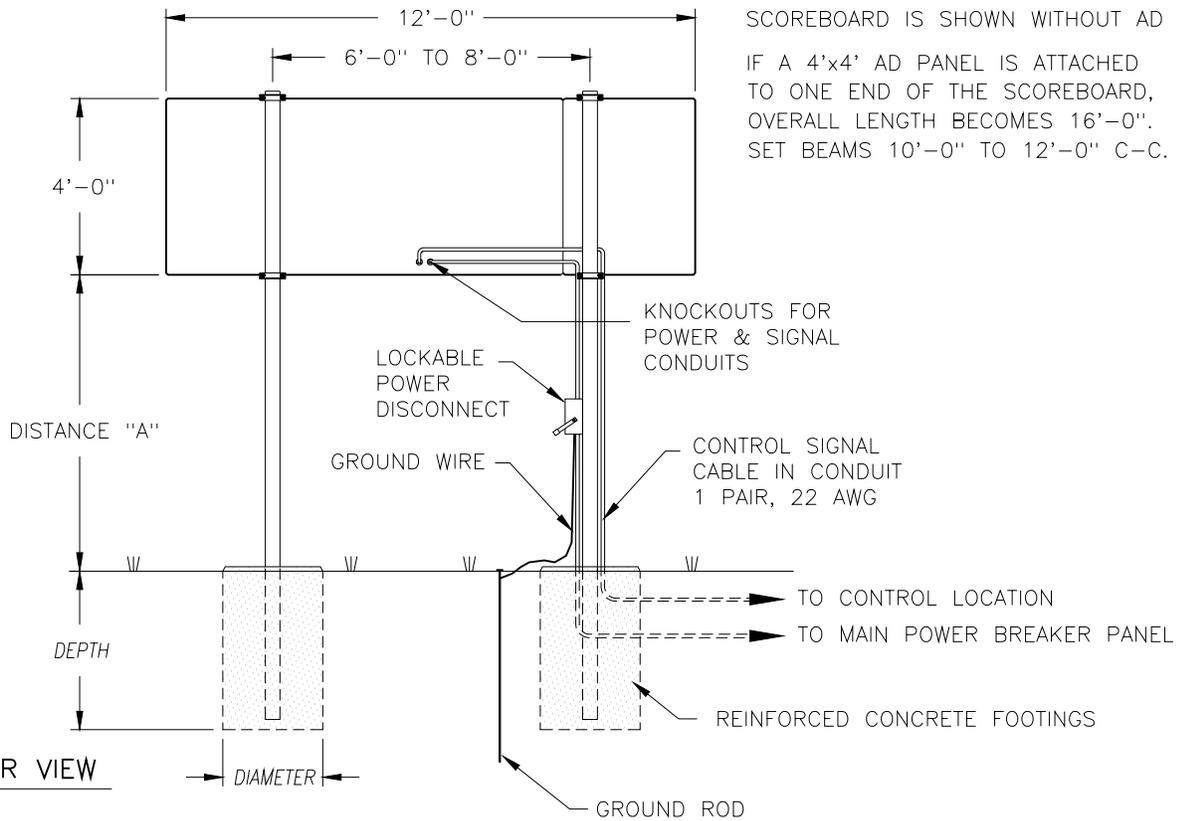
DAKTRONICS, INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.

MODEL BA-518 WITH 4' SQUARE AD PANEL AT ONE END					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	13'-0" x 4'-0"	BEAM FOOTING	W4x13 3.0' x 3.8'	W6x15 3.0' x 4.2'	W5x19 3.0' x 5.0'
12'-0"	13'-0" x 4'-0"	BEAM FOOTING	W6x15 3.0' x 4.0'	W5x19 3.0' x 4.4'	W8x24 3.0' x 5.2'
14'-0"	13'-0" x 4'-0"	BEAM FOOTING	W5x19 3.0' x 4.3'	W6x20 3.0' x 4.7'	W8x28 3.0' x 5.6'

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:	OUTDOOR SCOREBOARDS		
TITLE:	INSTALLATION SPECIFICATIONS, BA-518		
DES. BY:	AVB	DRAWN BY:	A VANBEMMEL
		DATE:	05FEB93
REVISION	APPR. BY:	1091-R10A-55004	
	SCALE: 1=50		

REV.	DATE	DESCRIPTION	BY	APPR.
2	19DEC00	REVISED COLUMN SECTIONS & FOOTINGS.	MVD	
1	06MAY94	CHANGED HEIGHT OF DISPLAY WITH 30" AD PANEL TO 6'-6".	AVB	AVB



MODEL BA-718 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	12'-0" x 4'-0"	BEAM FOOTING	W4x13 3.0' x 3.7'	W6x15 3.0' x 4.1'	W5x19 3.0' x 4.8'
12'-0"	12'-0" x 4'-0"	BEAM FOOTING	W6x15 3.0' x 3.9'	W8x18 3.0' x 4.3'	W8x24 3.0' x 5.1'
14'-0"	12'-0" x 4'-0"	BEAM FOOTING	W5x19 3.0' x 4.2'	W6x20 3.0' x 4.6'	W8x24 3.0' x 5.4'

MODEL BA-718 WITH 30"-HIGH HORIZONTAL AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	12'-0" x 6'-6"	BEAM FOOTING	W5x19 3.0' x 4.5'	W6x20 3.0' x 5.0'	W8x28 3.0' x 5.8'
12'-0"	12'-0" x 6'-6"	BEAM FOOTING	W8x24 3.0' x 4.7'	W8x24 3.0' x 5.2'	W8x31 3.0' x 6.1'
14'-0"	12'-0" x 6'-6"	BEAM FOOTING	W8x24 3.0' x 5.0'	W8x28 3.0' x 5.5'	W10x33 3.0' x 6.4'

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

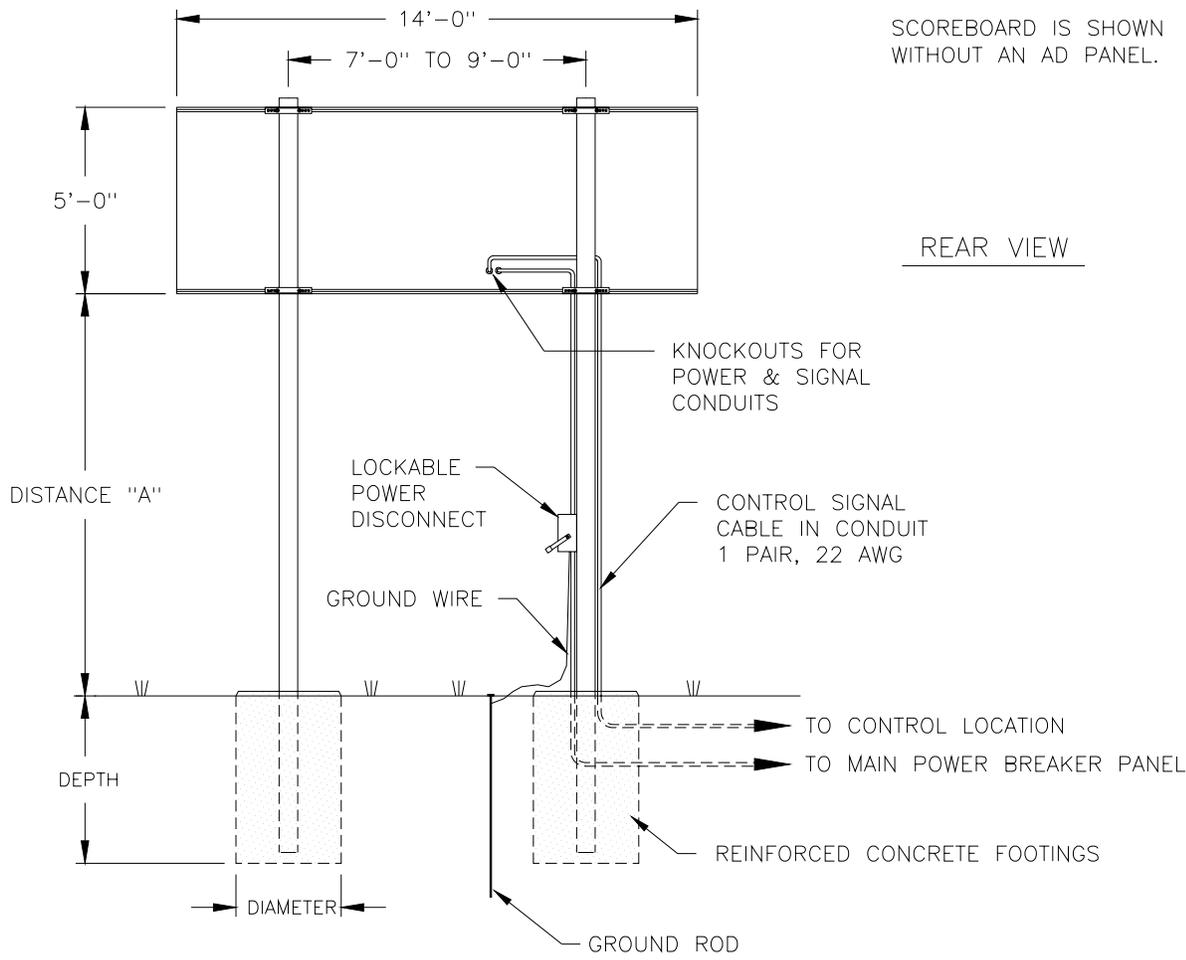
ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

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

MODEL BA-718 WITH 4' SQUARE AD PANEL AT ONE END					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	16'-0" x 4'-0"	BEAM FOOTING	W6x15 3.0' x 4.1'	W5x16 3.0' x 4.5'	W6x20 3.0' x 5.3'
12'-0"	16'-0" x 4'-0"	BEAM FOOTING	W8x18 3.0' x 4.3'	W5x19 3.0' x 4.7'	W8x24 3.0' x 5.6'
14'-0"	16'-0" x 4'-0"	BEAM FOOTING	W6x20 3.0' x 4.6'	W8x24 3.0' x 5.0'	W8x28 3.0' x 5.9'

REV.	DATE	DESCRIPTION	BY	APPR.
2	19DEC00	REVISED COLUMN SECTIONS & FOOTINGS.	MVD	
1	06MAY94	CHANGED HEIGHT OF DISPLAY WITH 30" AD PANEL TO 6'-6".	AVB	

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR SCOREBOARDS			
TITLE: INSTALLATION SPECIFICATIONS, BA-718			
DES. BY: AVB		DRAWN BY: A VANBEMMEL DATE: 04JAN93	
REVISION	APPR. BY:	1091-R10A-55005	
	SCALE: 1=50		



SCOREBOARD IS SHOWN WITHOUT AN AD PANEL.

REAR VIEW

MODEL BA-618 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	14'-0" x 5'-0"	BEAM FOOTING	W5x16 3.0' x 4.3'	W5x19 3.0' x 4.7'	W8x24 3.0' x 5.5'
12'-0"	14'-0" x 5'-0"	BEAM FOOTING	W5x19 3.0' x 4.5'	W8x24 3.0' x 5.0'	W8x28 3.0' x 5.8'
14'-0"	14'-0" x 5'-0"	BEAM FOOTING	W8x24 3.0' x 4.7'	W8x24 3.0' x 5.2'	W8x31 3.0' x 6.1'

MODEL BA-618 WITH 30"-HIGH AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	14'-0" x 7'-6"	BEAM FOOTING	W8x24 3.0' x 5.0'	W6x25 3.0' x 5.5'	W8x31 3.0' x 6.5'
12'-0"	14'-0" x 7'-6"	BEAM FOOTING	W8x28 3.0' x 5.3'	W8x31 3.0' x 5.8'	W8x35 3.0' x 6.8'
14'-0"	14'-0" x 7'-6"	BEAM FOOTING	W8x31 3.0' x 5.5'	W8x31 3.0' x 6.1'	W8x40 3.0' x 7.1'

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

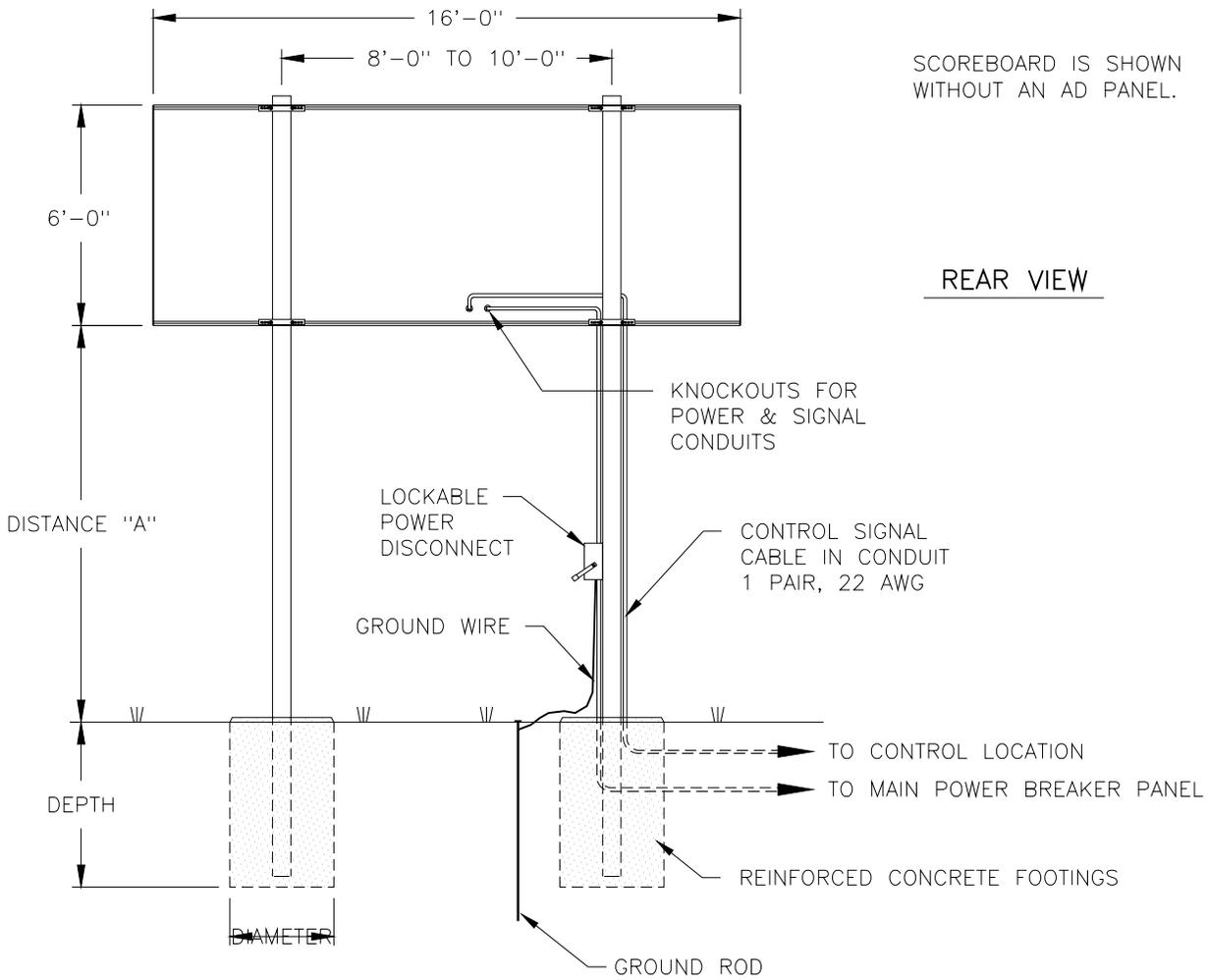
ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

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

DAKTRONICS, INC. BROOKINGS, SD 57006

REV.	DATE	DESCRIPTION	BY	APPR.
2	19DEC00	REVISED COLUMN SECTIONS & FOOTINGS.	MVD	
1	25NOV97	REPLACED BA-618L WITH BA-618.	TWEBER	

PROJ:	OUTDOOR SCOREBOARDS		
TITLE:	INSTALLATION SPECIFICATIONS, BA-618		
DES. BY:	AVB	DRAWN BY:	A VANBEMMEL
			DATE: 12FEB93
REVISION	APPR. BY:	1091-R10A-55006	
	SCALE: 1=60		



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

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

FOOTING = DIAMETER X DEPTH

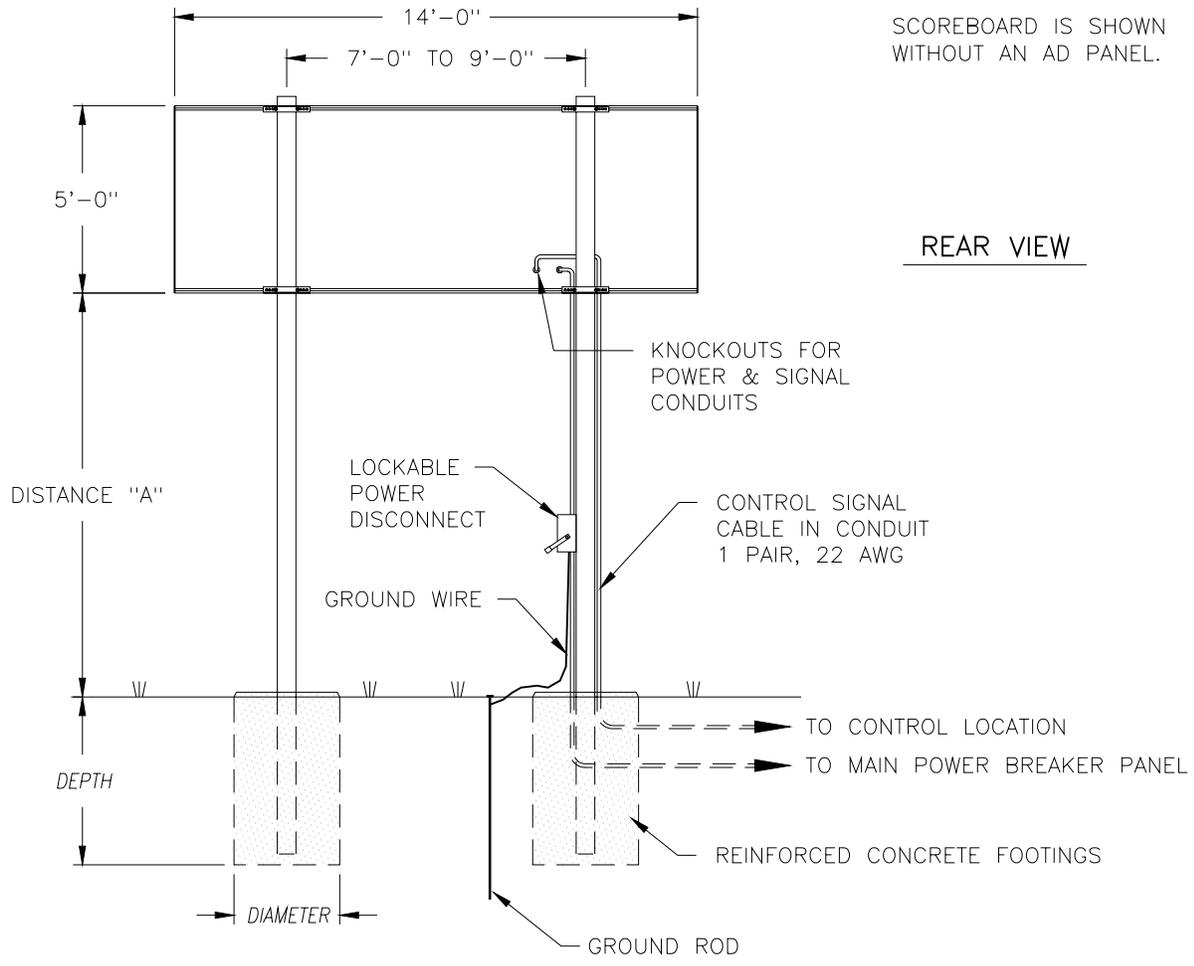
FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

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

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

03	21 SEPT 04	ADDED MODEL SO-2013	CAC		DAKTRONICS, INC. BROOKINGS, SD 57006	
2	19DEC00	REVISED COLUMN SECTIONS & FOOTINGS.	MVD		PROJ: OUTDOOR SCOREBOARDS	
1	25NOV97	REPLACED BA-624L WITH BA-624.	TWEBER		TITLE: INSTALLATION SPECIFICATIONS, BA-624 & SO-2013	
REV.	DATE	DESCRIPTION	BY	APPR.	DES. BY: AVB	DRAWN BY: A VANBEMMEL DATE: 15FEB93
					REVISION 03	APPR. BY: SCALE: 1=60
						1091-R10A-55007



SCOREBOARD IS SHOWN WITHOUT AN AD PANEL.

REAR VIEW

MODEL MS-918 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	14'-0" x 5'-0"	BEAM FOOTING	W5x16 3.0' x 4.3'	W5x19 3.0' x 4.7'	W8x24 3.0' x 5.5'
12'-0"	14'-0" x 5'-0"	BEAM FOOTING	W5x19 3.0' x 4.5'	W8x24 3.0' x 5.0'	W8x28 3.0' x 5.8'
14'-0"	14'-0" x 5'-0"	BEAM FOOTING	W8x24 3.0' x 4.7'	W8x24 3.0' x 5.2'	W8x31 3.0' x 6.1'

MODEL MS-918 WITH 30"-HIGH AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	14'-0" x 7'-6"	BEAM FOOTING	W8x24 3.0' x 5.0'	W6x25 3.0' x 5.5'	W8x31 3.0' x 6.5'
12'-0"	14'-0" x 7'-6"	BEAM FOOTING	W8x28 3.0' x 5.3'	W8x31 3.0' x 5.8'	W8x35 3.0' x 6.8'
14'-0"	14'-0" x 7'-6"	BEAM FOOTING	W8x31 3.0' x 5.5'	W8x31 3.0' x 6.1'	W8x40 3.0' x 7.1'

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

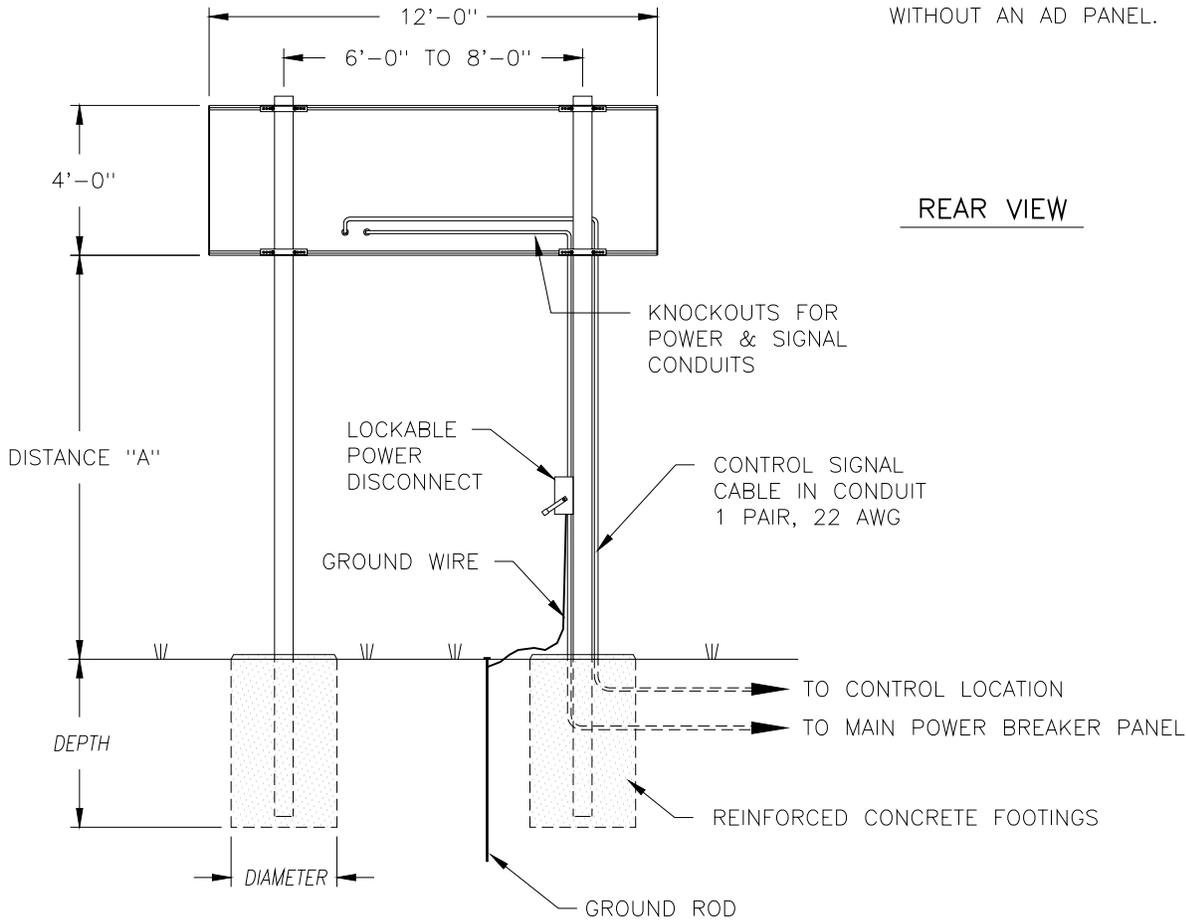
ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

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

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR SCOREBOARDS			
TITLE: INSTALLATION SPECIFICATIONS, MS-918			
DES. BY: AVB	DRAWN BY: A VANBEMMEL		DATE: 15FEB93
REVISION	APPR. BY:	1091-R10A-55009	
	SCALE: 1=60		

REV.	DATE	DESCRIPTION	BY	APPR.
1	20DEC00	REVISED COLUMN SECTIONS & FOOTINGS.	MVD	

SCOREBOARD IS SHOWN WITHOUT AN AD PANEL.



REAR VIEW

MODEL SO-918 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	12'-0" x 4'-0"	BEAM FOOTING	W4x13 3.0' x 3.7'	W6x15 3.0' x 4.1'	W5x19 3.0' x 4.8'
12'-0"	12'-0" x 4'-0"	BEAM FOOTING	W6x15 3.0' x 3.9'	W8x18 3.0' x 4.3'	W8x24 3.0' x 5.1'
14'-0"	12'-0" x 4'-0"	BEAM FOOTING	W5x19 3.0' x 4.2'	W6x20 3.0' x 4.6'	W8x24 3.0' x 5.4'

MODEL SO-918 WITH 30"-HIGH AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	12'-0" x 6'-6"	BEAM FOOTING	W8x18 3.0' x 5.1'	W6x20 3.0' x 5.6'	W8x24 3.0' x 6.6'
12'-0"	12'-0" x 6'-6"	BEAM FOOTING	W6x20 3.0' x 5.4'	W6x20 3.0' x 5.9'	W12x26 3.0' x 6.9'
14'-0"	12'-0" x 6'-6"	BEAM FOOTING	W12x26 3.0' x 5.6'	W12x26 3.0' x 6.2'	W14x30 3.0' x 7.2'

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

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

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DAKTRONICS, INC. BROOKINGS, SD 57006

3	23 FEB 04	ADDED 6'-6" SIZE HEIGHT & NEW COLUMN AND FOOTING SIZES	JLB	
2	30 MAY 02	ADDED MODELS SO-2009 & SO-2010 TO TITLE.	TWEBER	
1	20DEC00	REVISED COLUMN SECTIONS & FOOTINGS.	MVD	
REV.	DATE	DESCRIPTION	BY	APPR.
03				

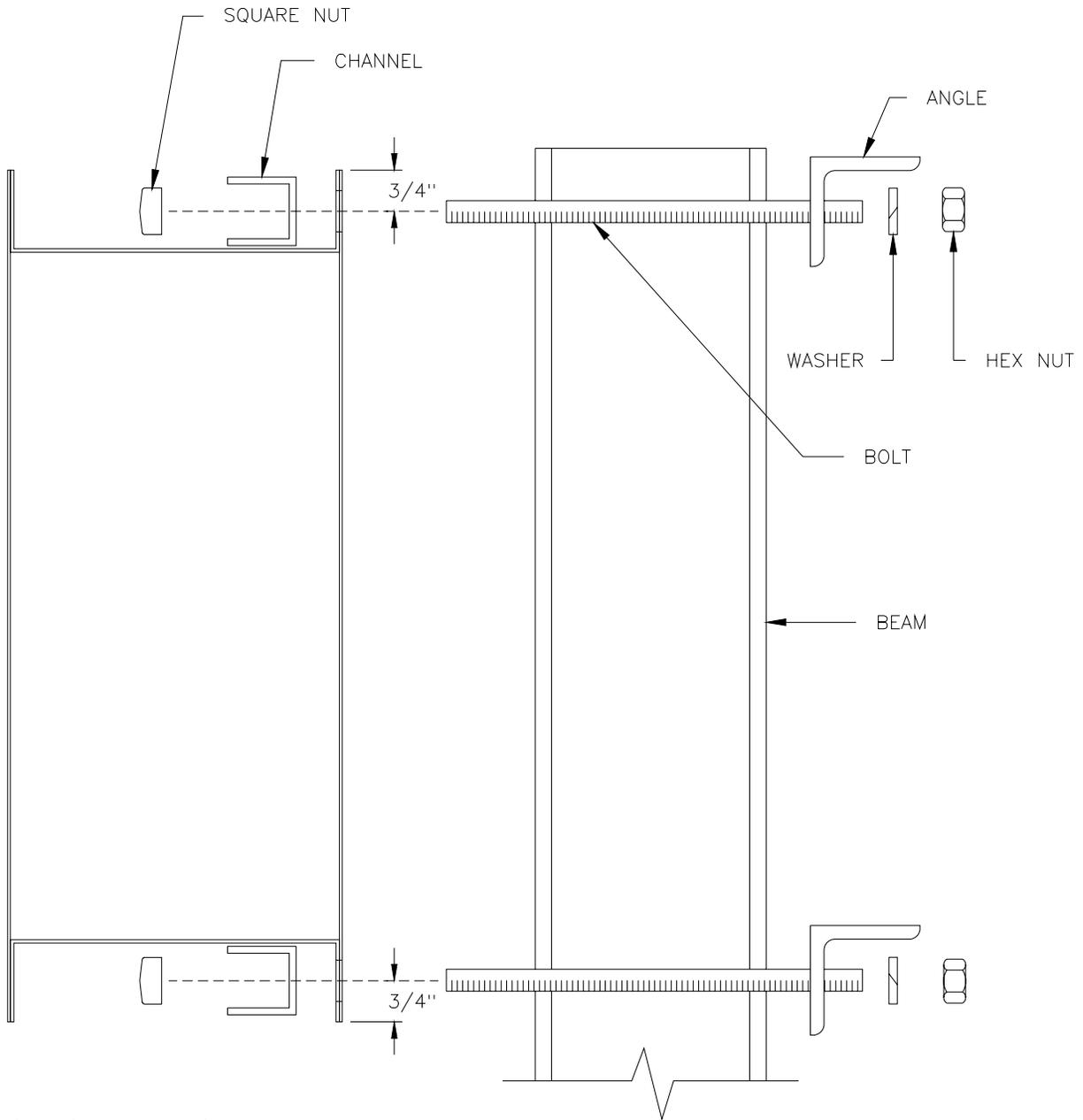
PROJ: OUTDOOR SCOREBOARDS

TITLE: INSTALLATION SPECS, SO-918, SO-2009 and SO-2010

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

REVISION APPR. BY:
03 SCALE: 1=60

1091-R10A-55010

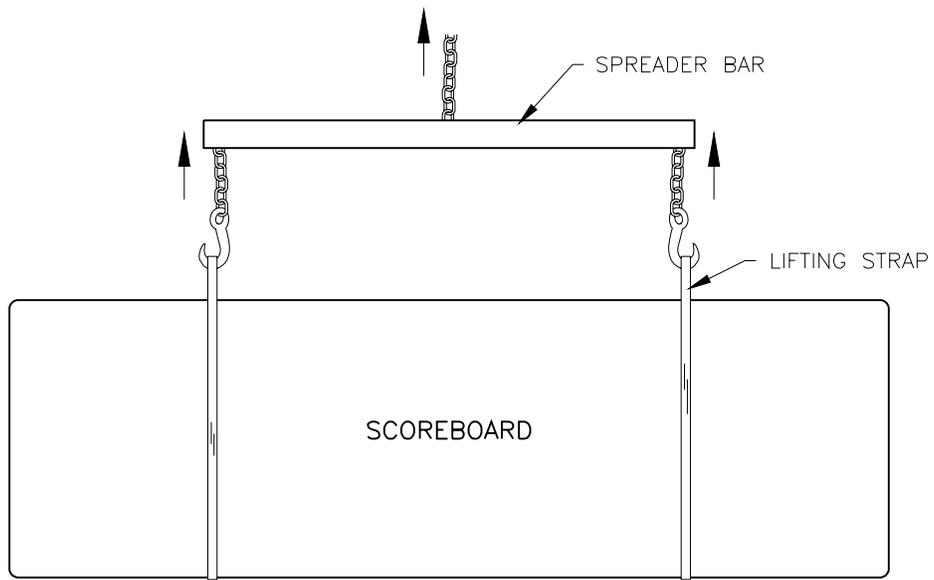


MOUNTING INSTRUCTIONS:

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

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR SCOREBOARDS	
TITLE: SCOREBOARD MOUNTING	
DES. BY:	DRAWN BY: A VANBEMMEL DATE: 10FEB93
REVISION	APPR. BY:
	SCALE: NONE
1091-R10A-55101	

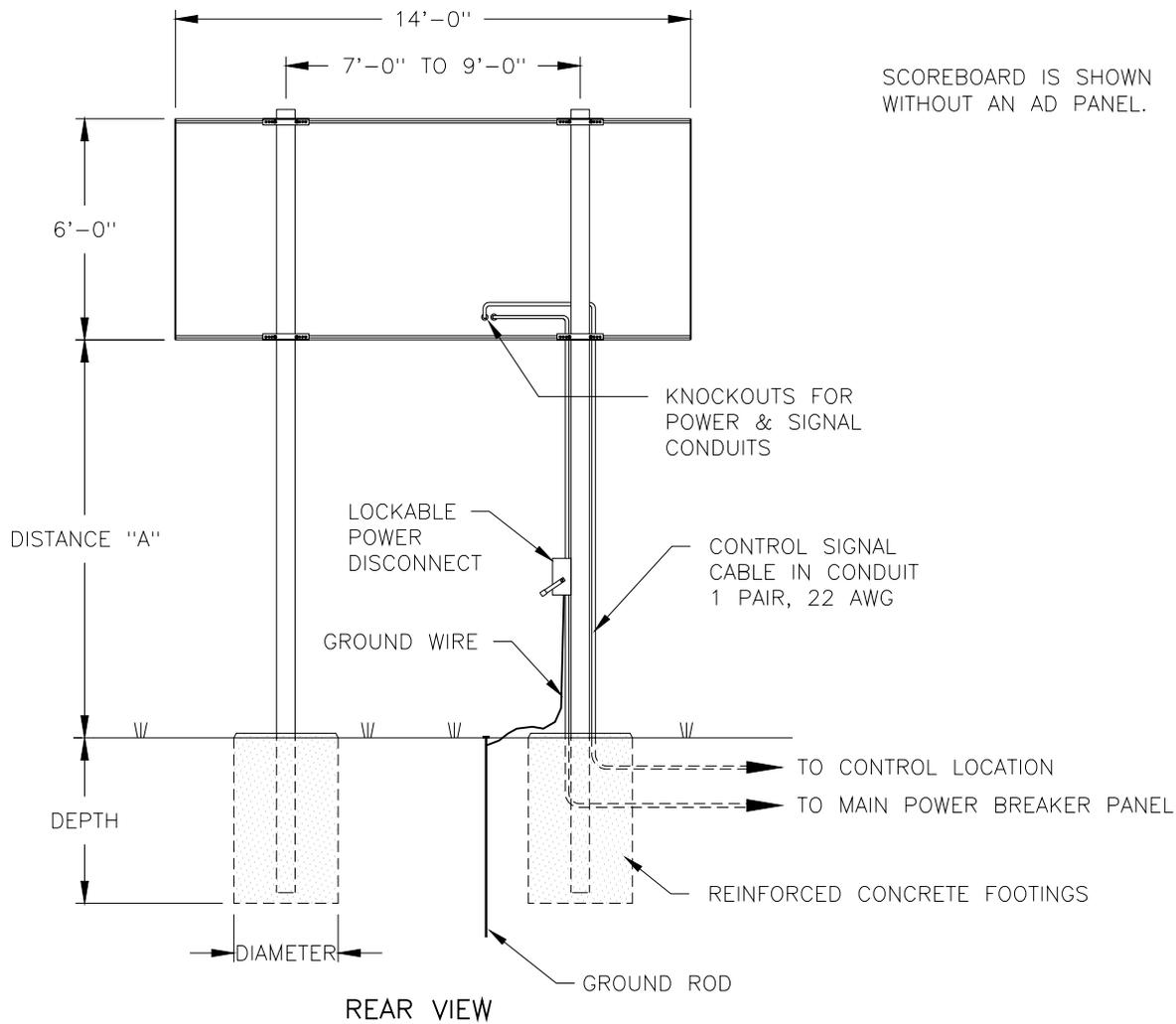
REV.	DATE	DESCRIPTION	BY	APPR.



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

REV.	DATE	DESCRIPTION	BY	APPR.
------	------	-------------	----	-------

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR SCOREBOARDS	
TITLE: LIFTING SMALL BASEBALL SCOREBOARD	
DES. BY:	DRAWN BY: C FICKBOHM DATE: 29 SEP 93
REVISION	APPR. BY:
	SCALE: NONE
1091-R10A-58668	



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

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

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

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

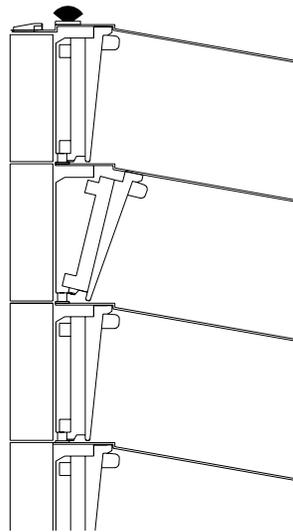
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DAKTRONICS, INC. BROOKINGS, SD 57006

03	05MAY04	ADDED MODEL BA-2016	MCOP	
2	20DEC00	REVISED COLUMN SECTIONS & FOOTINGS	MVD	
1	21MAR94	CORRECTED DISPLAY HEIGHT ON FIGURE.	AVB	AVB
REV.	DATE	DESCRIPTION	BY	APPR.
03			SCALE: 1=60	1091-R10A-61904

PROJ: OUTDOOR SCOREBOARDS	
TITLE: INSTALLATION SPECIFICATIONS, BA-1018	
DES. BY: AVB	DRAWN BY: A VANBEMMEL DATE: 17MAR94
REVISION	APPR. BY:



TILT LENS, SET BEHIND LOUVER OFFSET, AND SNAP UP INTO THE VERTICAL POSITION. LENS MUST BE SNAPPED UP IN AND BEHIND UPPER LOUVER OFFSET.

SIDE VIEW

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: 1500 SERIES MESSAGE CENTERS, 1 1/2"

TITLE: CORRECT LENS POSITION, 1 1/2"

DES. BY:

DRAWN BY: MMEISS

DATE: 09-26-95

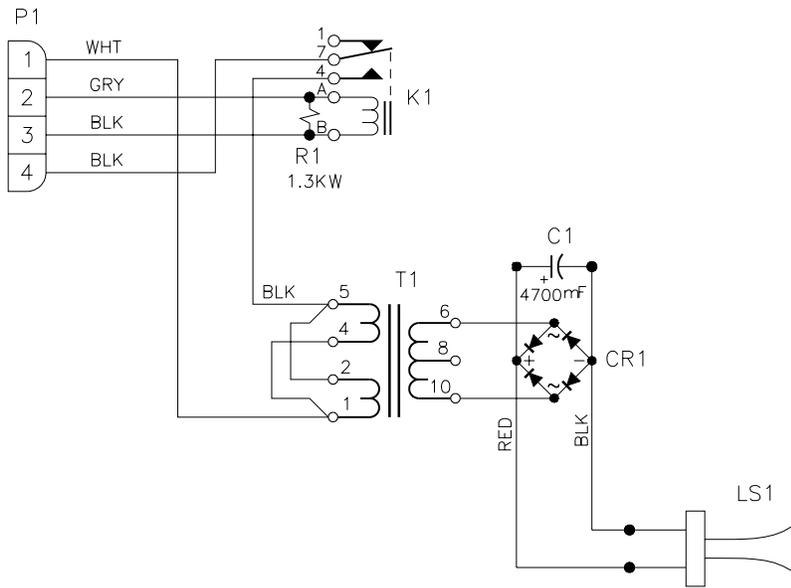
REVISION

APPR. BY:

SCALE: 1=2

7000-P08A-75204

1	8DEC97	CORRECTED DWG TO CORRECT SCALE	JRT	
REV.	DATE	DESCRIPTION	BY	APPR.



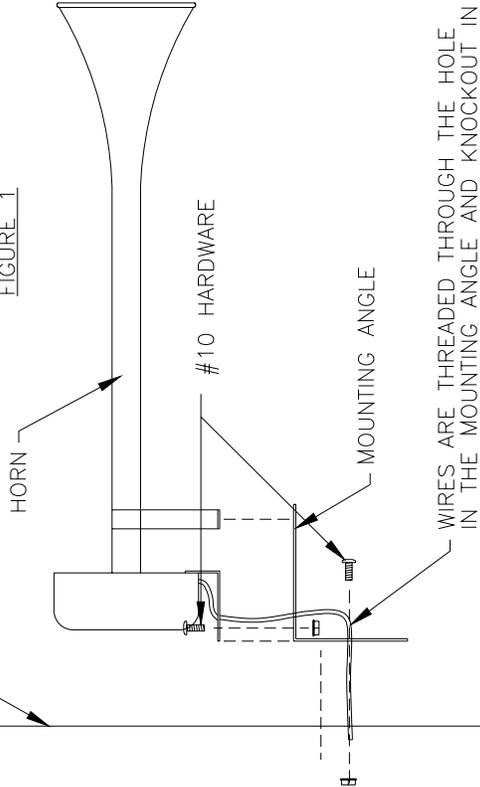
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: STANDARD SCOREBOARDS	
TITLE: SCHEMATIC, FOOTBALL TRUMPET HORN	
DES. BY: AVB	DRAWN BY: AVB
	DATE: 18 JUN 96
REVISION	APPR. BY:
	SCALE: NONE
1091-R03A-83329	

FOR COMPLETE INSTALLATION INSTRUCTIONS, REFER TO ED-10006.
 LOCATE HORN PANEL OF THE SCOREBOARD.

SCOREBOARD HORN/ACCESS PANEL

FIGURE 1



SIDE VIEW

SCALE 1=5

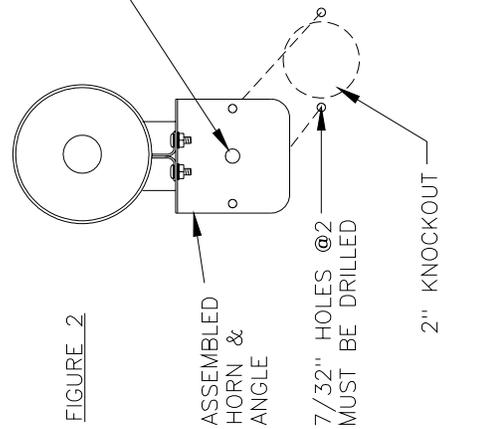


FIGURE 2

FRONT VIEW

SCALE 1=5

1. OPEN THE HORN PANEL AND LOCATE THE ENTRANCE PLATE. DRILL TWO 5/32" HOLES 4 INCHES APART IN THE BACK OF THE SCOREBOARD NEAR THE ENTRANCE PLATE.
 2. ATTACH THE ENCLOSURE TO THE INSIDE OF THE SCOREBOARD OVER THE 5/32" HOLES USING #10 TAPPING SCREWS. ATTACH THE PLATE ASSEMBLY TO THE ENCLOSURE USING #10 HARDWARE.
- REMOVE 2" KNOCKOUT IN THE HORN PANEL AND DRILL TWO 7/32" HOLES USING THE TEMPLATE DRAWING A-83502. IF NO KNOCKOUT EXISTS, USE THE TEMPLATE TO DRILL ONE 8/32" HOLE AND TWO 7/32" HOLES IN THE PANEL.
- MOUNTING HORN TO SCOREBOARD FACE
1. THREAD THE TWO GREY WIRES FROM THE HORN THROUGH THE TOP OF THE MOUNTING ANGLE.
 2. ATTACH THE HORN TO THE MOUNTING ANGLE USING THE HARDWARE PROVIDED (FIGURE 1).
 3. INSERT THE BUSHING INTO THE 3/8" HOLE IN THE MOUNTING ANGLE.
 4. MOUNT HORN/ANGLE ASSEMBLY TO THE FACE OF THE SCOREBOARD OVER THE 2" KNOCKOUT AND 7/32" HOLES USING #10 HARDWARE PROVIDED.
 5. OPEN THE HORN PANEL AND REMOVE THE COVER FROM THE ENCLOSURE.
 6. USING THE WIRENUTS PROVIDED CONNECT ONE GREY WIRE FROM THE HORN TO THE BLACK WIRE FROM THE PLATE ASSEMBLY. CONNECT THE OTHER GREY WIRE TO THE RED WIRE (FIGURE 3).
 7. CONNECT THE PLUG FROM THE PLATE ASSEMBLY TO THE HORN JACK ON THE SIDE OF THE ENTRANCE ENCLOSURE OR ON THE ENTRANCE PLATE.
 8. ATTACH THE COVER TO THE ENCLOSURE USING #10 HARDWARE.
 9. CLOSE AND SECURE THE HORN PANEL.

(SEE FIGURE 2).

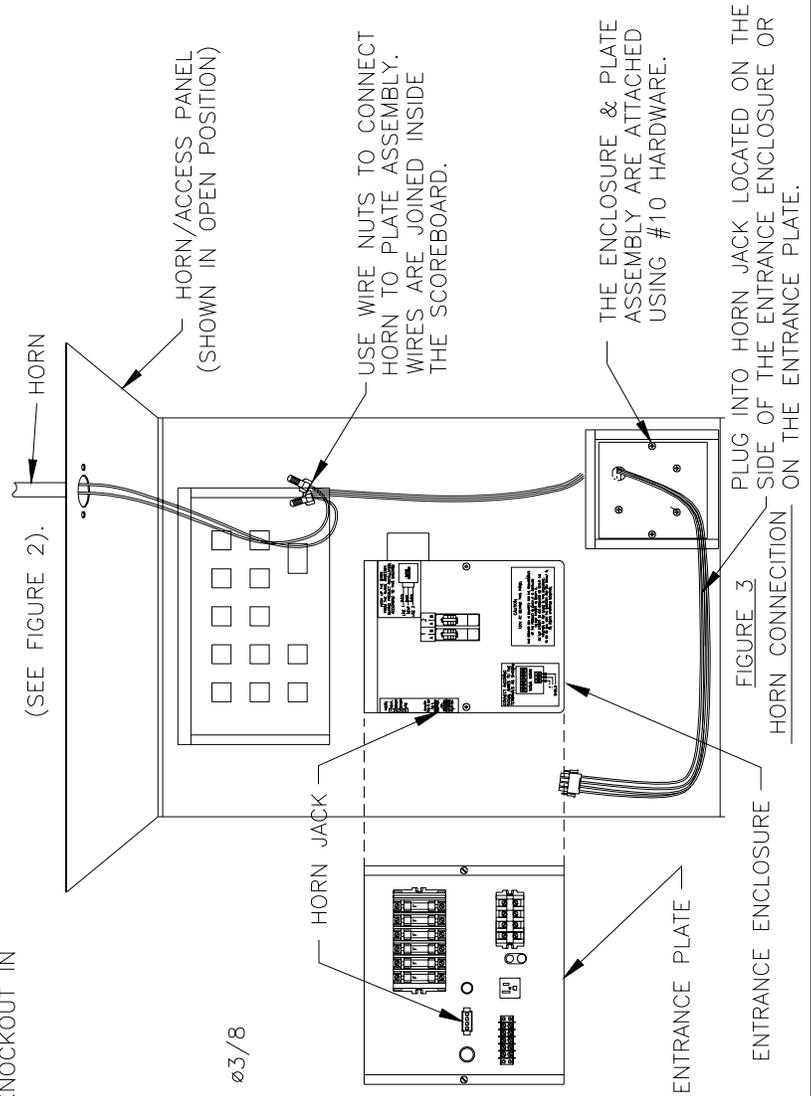
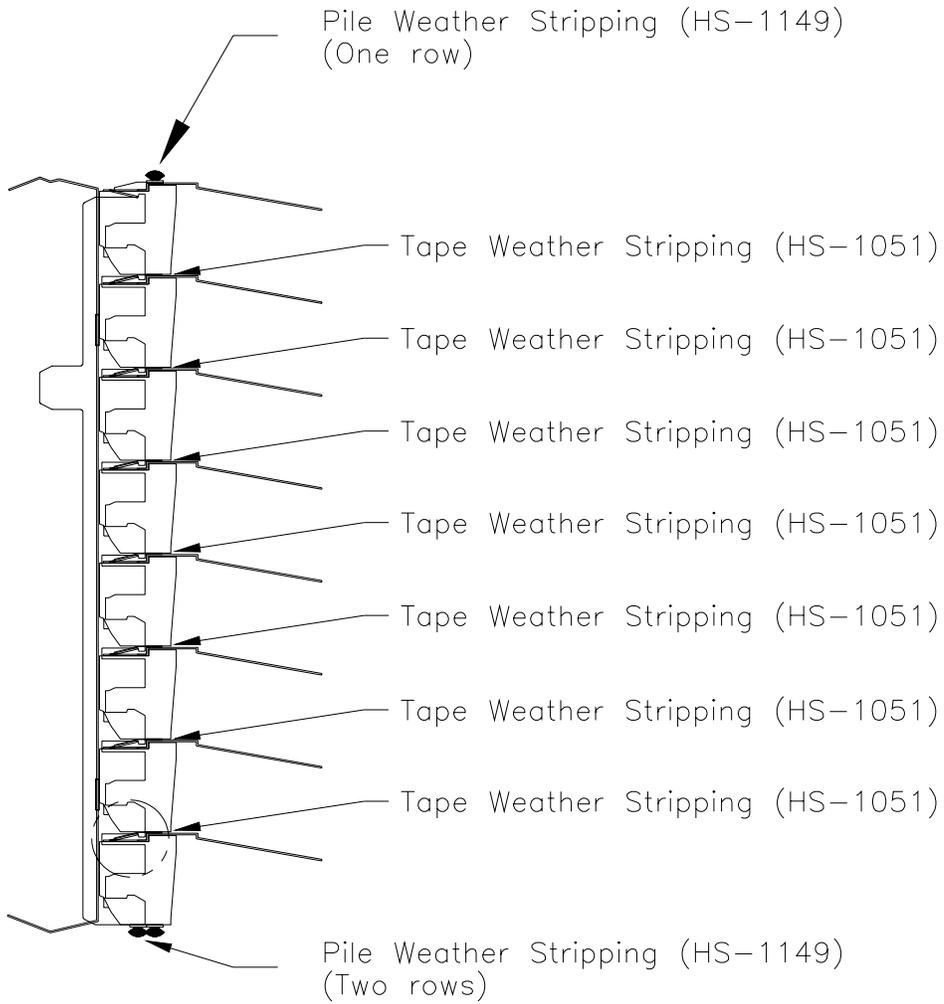


FIGURE 3

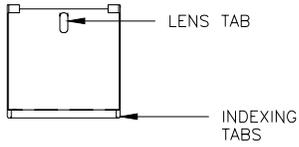
REV.	DATE	DESCRIPTION	BY	APPR.
3	19JUL00	UPDATED HORN ENCLOSURE IN FIGURE 3	GDB	
2	14FEB00	ADDED ENTRANCE ENCLOSURE TO FIGURE 3	BDP	
1	23 SEPT 96	CHG SCALE OF FIGURES 1 & 2 SWITCHED POSITIONS OF FIGURES 1 & 2	JEM	

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: STANDARD SCOREBOARDS	
TITLE: FINAL ASSEMBLY, 12V DC HORN MOUNTING	
DES. BY:	DRAWN BY: JMOEN
DATE: 20 JUN 96	
REVISION	APPR. BY:
SCALE: 1=10	1091-E10A-83333

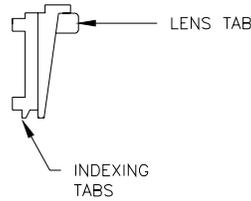


SIDE VIEW OF LENS/REFLECTOR ASSY

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: 1600 SERIES MESSAGE BOARDS, 1 1/2"				
TITLE: LENS ASSY, WEATHERSTRIPPING LOCATION, FOR MANUAL				
DES. BY:		DRAWN BY: JRT		DATE: 15JAN98
REV.	DATE	DESCRIPTION	BY	APPR.
REVISION			APPR. BY:	1176-R10A-91100
			SCALE: 1=3	

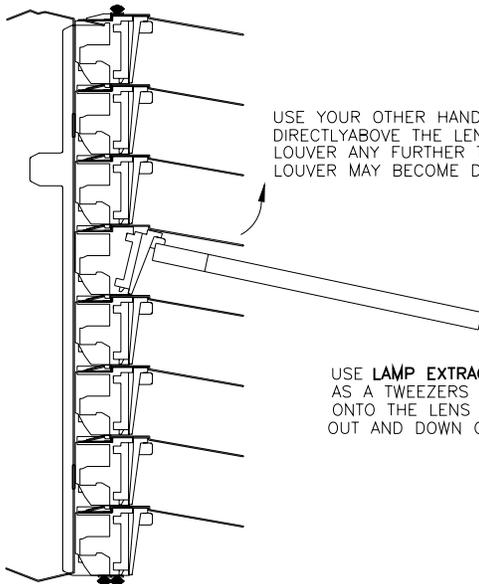


FRONT VIEW



SIDE VIEW

INDEXING TABS: THE SLOTS IN THE BOTTOM OF THE REFLECTOR ACCOMMODATE THE LENS INDEXING TABS. TO INSERT A LENS, SET THE TABS INTO THE REFLECTOR SLOTS AND SNAP THE LENS UP INTO THE VERTICAL POSITION.



SIDE VIEW OF LENS/REFLECTOR ASSY



RUBBER-TIPPED
LAMP EXTRACTING TOOL
DAK PART No. TH-1032

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: 1600 SERIES MESSAGE BOARDS, 1 1/2"

TITLE: LENS REMOVAL, FRONT ACCESS, FOR MANUAL USE

DES. BY:

DRAWN BY: JRT

DATE: 15JAN98

REVISION

APPR. BY:

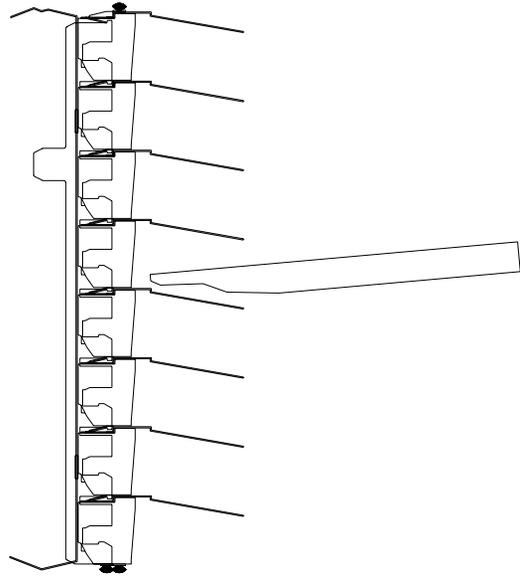
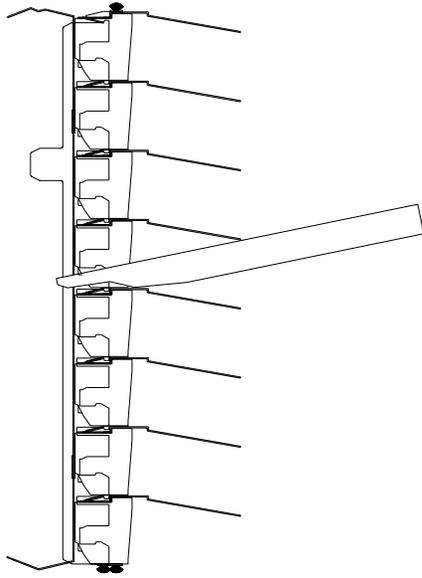
SCALE: 1=4

1176-R19A-99898

REV.	DATE	DESCRIPTION	BY	APPR.
1	27APR98	CORRECTED DWG TITLE FROM "LENS ASSY REMOVAL" TO "LENS REMOVAL".	JRT	



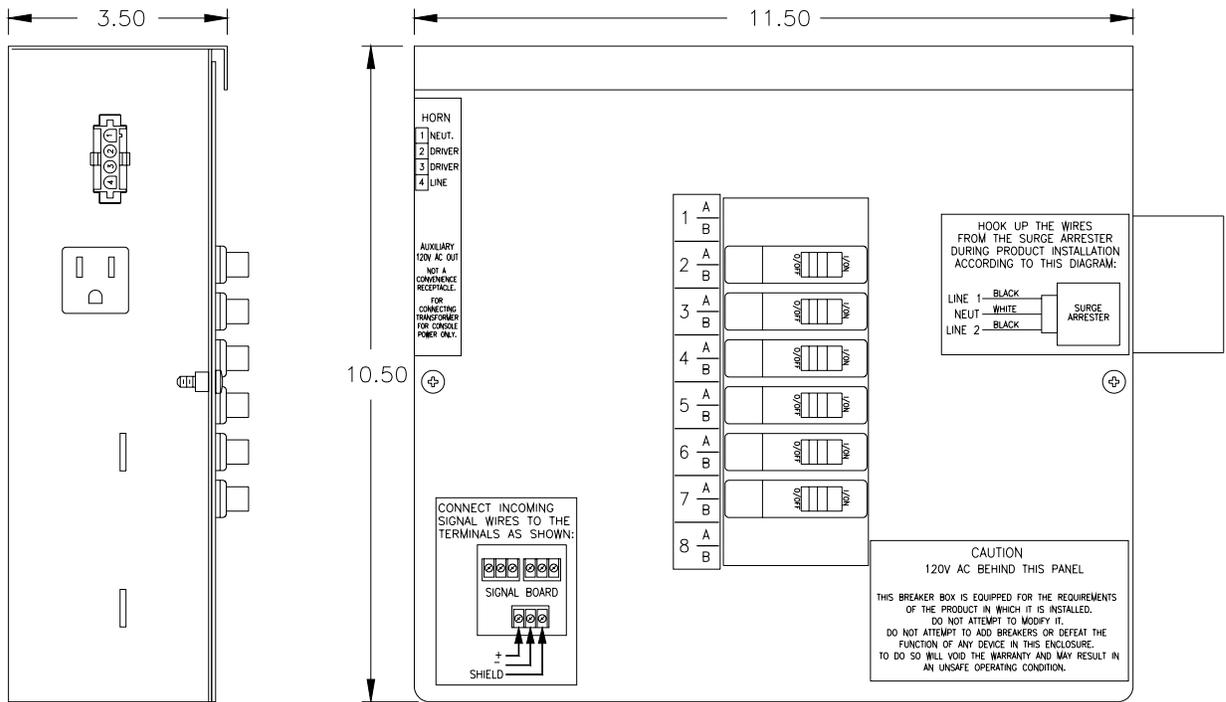
FRONT ACCESS REMOVAL TOOL
DAK PART No. OM-95442



SIDE VIEW OF LENS/REFLECTOR ASSY

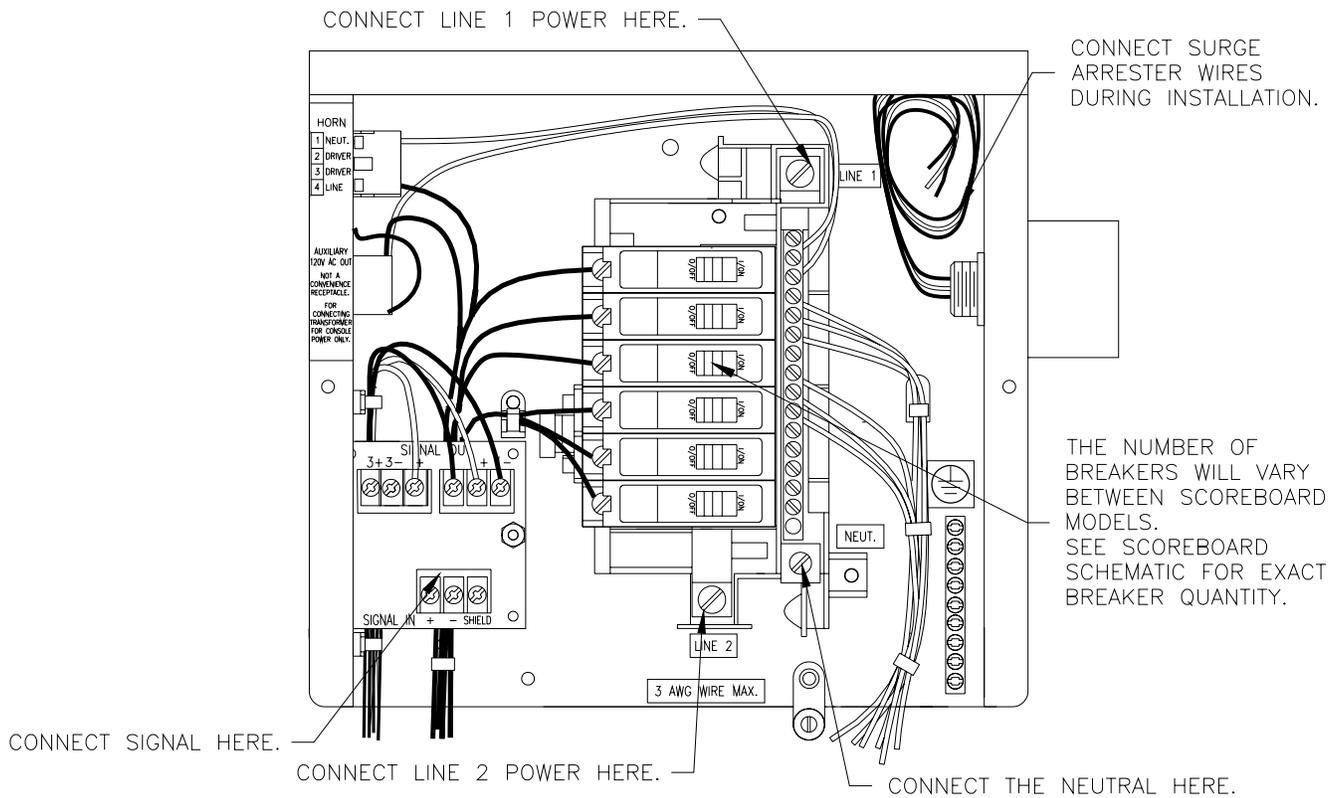
REV.	DATE	DESCRIPTION	BY	APPR.
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DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: 1600 SERIES MESSAGE BOARDS, 1 1/2"	
TITLE: LENS ASSY REMOVAL, FRONT ACCESS, FOR MANUAL USE	
DES. BY:	DRAWN BY: JRT
DATE: 15JAN98	
REVISION	APPR. BY:
	SCALE: 1=4
1176-R10A-99899	



LEFT SIDE

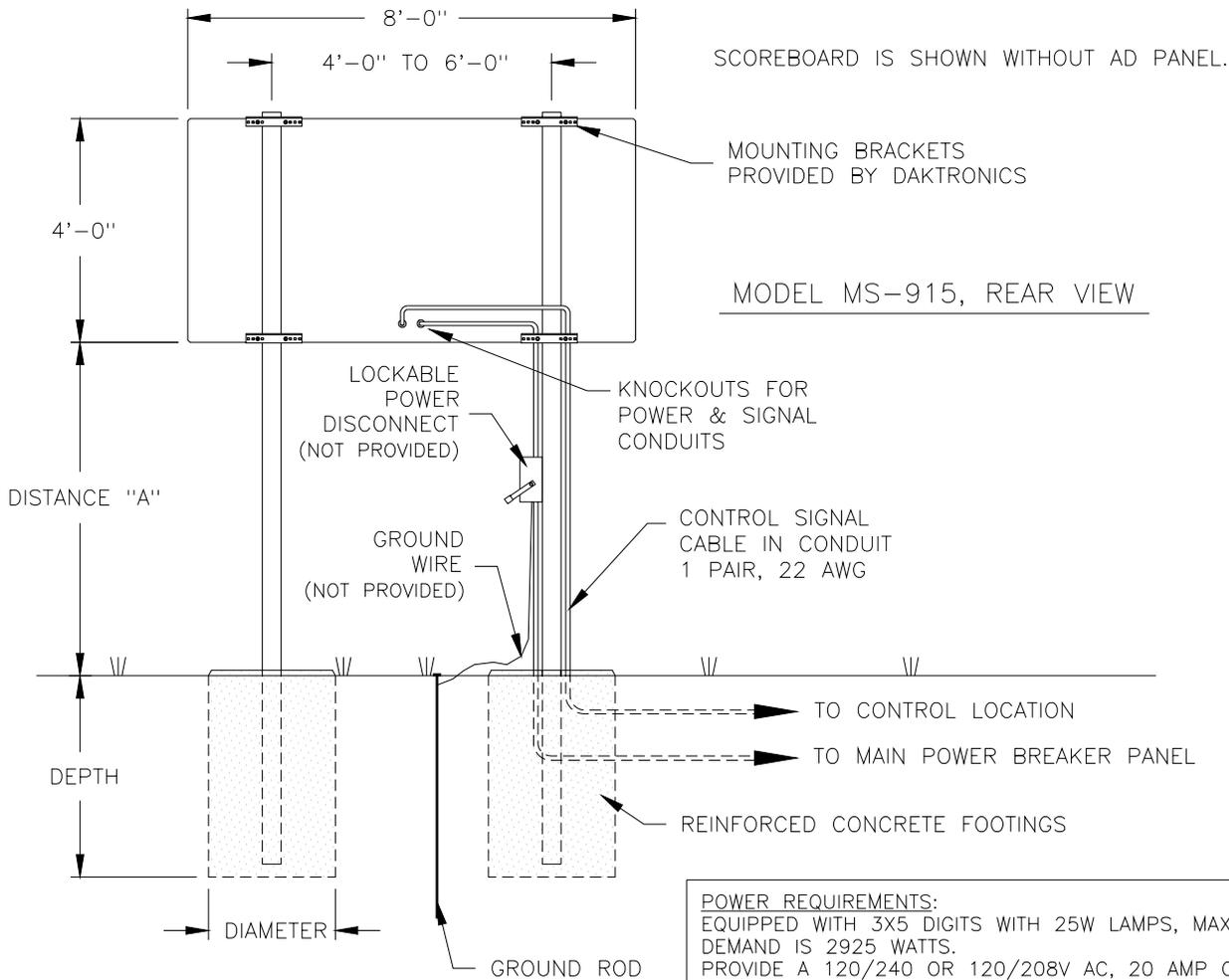
FRONT VIEW



FRONT VIEW

(WITH COVER REMOVED)

DAKTRONICS, INC. BROOKINGS, SD 57006				
02	18JAN01	ADDED TB-1037 AND GROUND LUG AND DECREASED SIZE OF LEFT MOUNTING HOLE	MCOPL	PROJ: OUTDOOR INCANDESCENT SCOREBOARDS
01	16 OCT 00	REMOVED GROUND LUG AND INCREASED THE SIZE OF THE LOWER MTG HOLES TO 5/16ø.	JNILSE	TITLE: COMPONENTS, 8/16 POS POWER AND SIGNAL ENTRANCE
REV.	DATE	DESCRIPTION	BY	DES. BY: BPETERSON DRAWN BY: BPETERSON DATE: 16DEC99
			APPR.	REVISION APPR. BY: SCALE: 1=3
				1091-E10A-109114



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

SIGNAL: 1 SHIELDED PAIR, 22 AWG MIN.

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

MODEL MS-915 WITH 24"-HIGH HORIZONTAL AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			60 MPH	80 MPH	100 MPH
10'-0"	8'-0" x 6'-0"	BEAM FOOTING	W6x12 1.5' x 4'	W6x12 2' x 5'	W8x15 2' x 6'
12'-0"	8'-0" x 6'-0"	BEAM FOOTING	W6x12 1.5' x 4.5'	W6x15.5 2' x 5.25'	W8x17 2.5' x 6'
14'-0"	8'-0" x 6'-0"	BEAM FOOTING	W6x15.5 2' x 4.25'	W6x15.5 2' x 5.75'	W8x20 2.5' x 6.5'

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

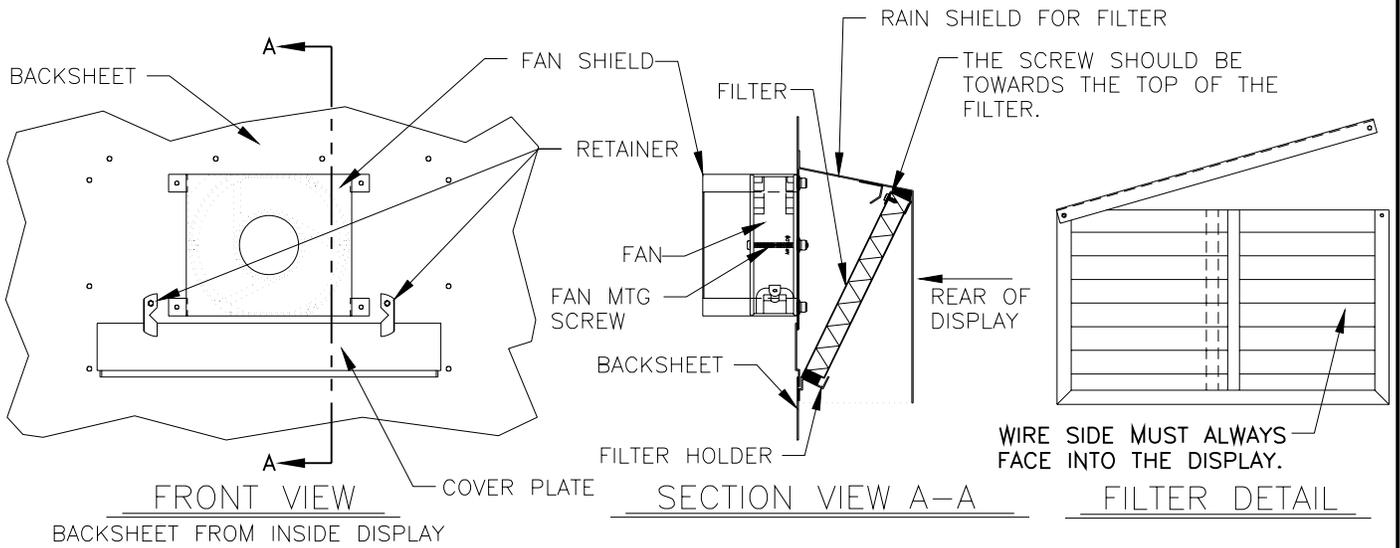
FOOTING DIMENSIONS ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.
 FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 3000 LB/SQ FT.
 ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED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

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

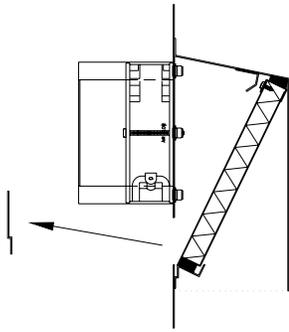
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:			
TITLE:	INSTALLATION SPECIFICATIONS, MS-915		
DES. BY:	DRAWN BY:	A VANBEMMEL	DATE: 17 MAR 99
REVISION	APPR. BY:	1091-R08A-113568	
	SCALE: 1=40		

REV.	DATE	DESCRIPTION	BY	APPR.

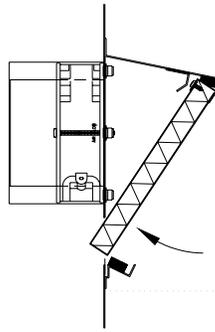


FILTER REMOVAL FROM THE FRONT



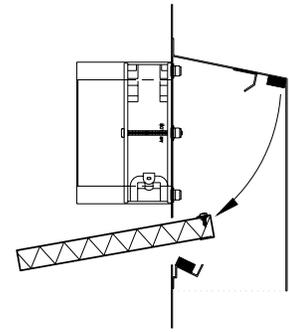
STEP #1

REMOVE COVER PLATE.



STEP #2

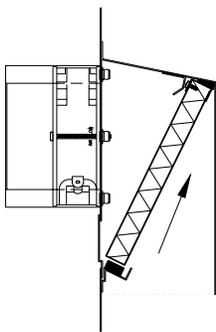
ROTATE FILTER TOWARDS OPENING.



STEP #3

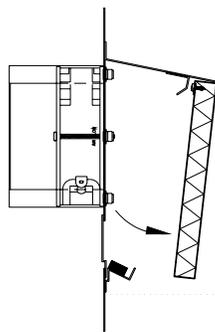
PULL FILTER OUT THROUGH OPENING.

FILTER REMOVAL FROM THE REAR



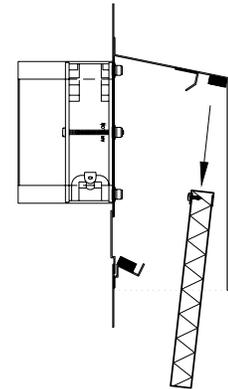
STEP #1

PUSH FILTER UP.



STEP #2

ROTATE FILTER OVER LIP OF FILTER HOLDER.



STEP #3

PULL FILTER OUT THROUGH OPENING.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INTEGRATED SCOREBOARDS

TITLE: FILTER REMOVAL; 250 CFM FAN

DES. BY: BPETERSON

DRAWN BY: BPETERSON

DATE: 29MAR99

REVISION

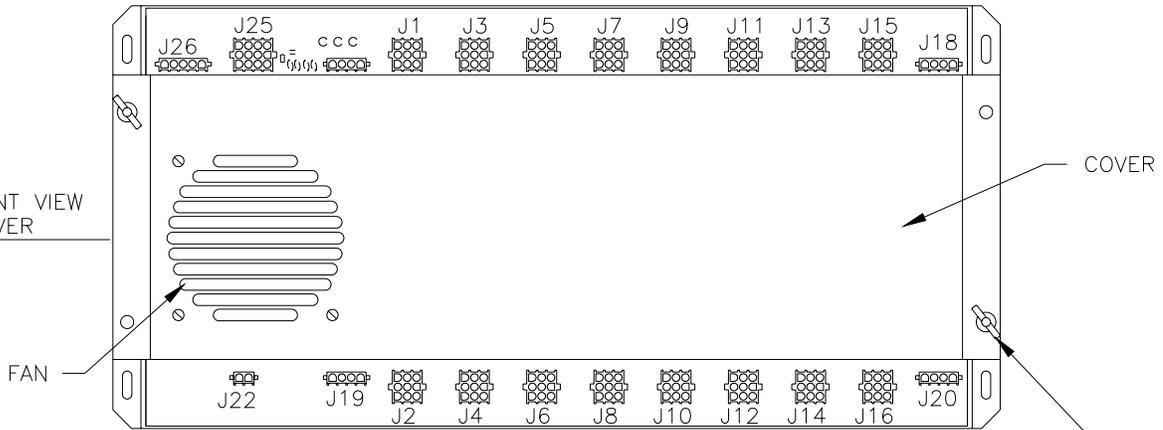
APPR. BY:

SCALE: 1=8

1157-E10A-113986

REV.	DATE	DESCRIPTION	BY	APPR.

DRIVER FRONT VIEW WITH COVER



REMOVE TWO WING NUTS TO REMOVE COVER AND GAIN ACCESS TO FUSES.

J25

PIN	FUNCTION	PIN	FUNCTION
1	GND	7	GND
2	ADDR 0 -	8	ADDR 4 -
3	ADDR 1 -	9	ADDR 5 -
4	GND	10	GND
5	ADDR 2 -	11	ADDR 6 -
6	ADDR 3 -	12	CLMN SWAP

J1 - J16

PIN	FUNCTION
1	SEG C
2	SEG B
3	SEG A
4	SEG F
5	SEG E
6	SEG D
7	COMMON
8	SEG H
9	SEG G

J18

PIN	FUNCTION
1	LAMP NEUT
2	LAMP NEUT
3	LAMP HOT 1, 3, 5, 7
4	LAMP HOT 2, 4, 6, 8

J17

PIN	FUNCTION
1	SIG IN +
2	SIG IN -
3	SIG OUT +
4	SIG OUT -

J26

PIN	FUNCTION
1	GND
2	PROT 0 -
3	PROT 1 -
4	PROT 2 -
5	TOD-N

DRIVER FRONT VIEW WITH COVER REMOVED

J23

PIN	FUNCTION
1	FAN SW HOT
2	NEUT
3	FAN HOT
4	NEUT

J22

PIN	FUNCTION
1	NORM OPEN
2	COMMON

J19

PIN	FUNCTION
1	NEUTRAL
2	NEUTRAL
3	120V HOT
4	120V HOT

J20

PIN	FUNCTION
1	LAMP NEUT
2	LAMP NEUT
3	LAMP HOT 9,11,13,15
4	LAMP HOT 10,12,14,16

PLUG FROM FAN IN COVER CONNECTS TO J23

F1 THRU F16 ARE TYPE AGC-10, DAKTRONICS PART NUMBER F-1006.
F17 ARE TYPE AGC-1/2, DAKTRONICS PART NUMBER F-1000

REV.	DATE	DESCRIPTION	BY	APPR.
5	17 JAN 02	CHANGED ADD 7 TO CLMN SWAP ON J25	JJS	
4	2 OCT 00	CHANGED J25 & J26 TEXT -5 V TO GND	NSW	
3	29 SEP 00	CORRECTED J25 TABLE, CHANGED J26 TABLE PIN 5 FROM PROT 3 TO T.O.D.	AVB	
2	2 JUNE 00	CORRECTED J26 PINOUT TABLE	EB	

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:

TITLE: LAYOUT; 16 COLUMN DRIVER III

DES. BY: EB

DRAWN BY: EB

DATE: 11 NOV 99

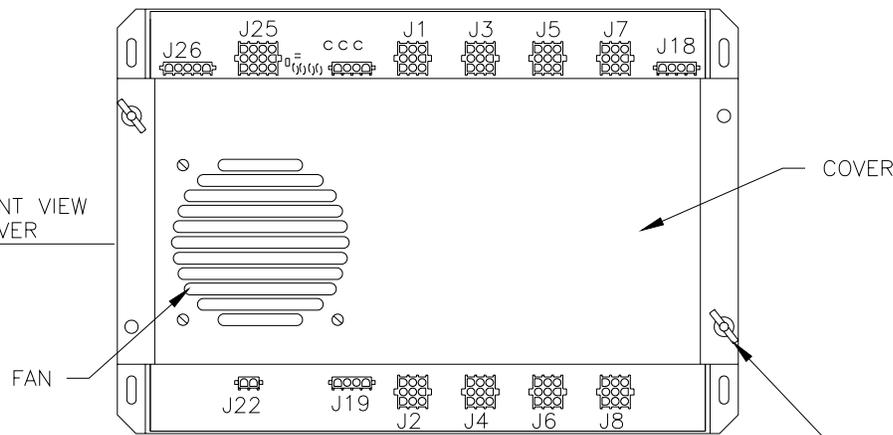
REVISION

APPR. BY:

SCALE: 1=5

1033-R04A-123940

DRIVER FRONT VIEW WITH COVER



REMOVE TWO WING NUTS TO REMOVE COVER AND GAIN ACCESS TO FUSES.

J25

PIN	FUNCTION	PIN	FUNCTION
1	GND	7	GND
2	ADDR 0 -	8	ADDR 4 -
3	ADDR 1 -	9	ADDR 5 -
4	GND	10	GND
5	ADDR 2 -	11	ADDR 6 -
6	ADDR 3 -	12	CLMN SWAP

J1 - J8

PIN	FUNCTION
1	SEG C
2	SEG B
3	SEG A
4	SEG F
5	SEG E
6	SEG D
7	COMMON
8	SEG H
9	SEG G

J17

PIN	FUNCTION
1	SIG IN +
2	SIG IN -
3	SIG OUT +
4	SIG OUT -

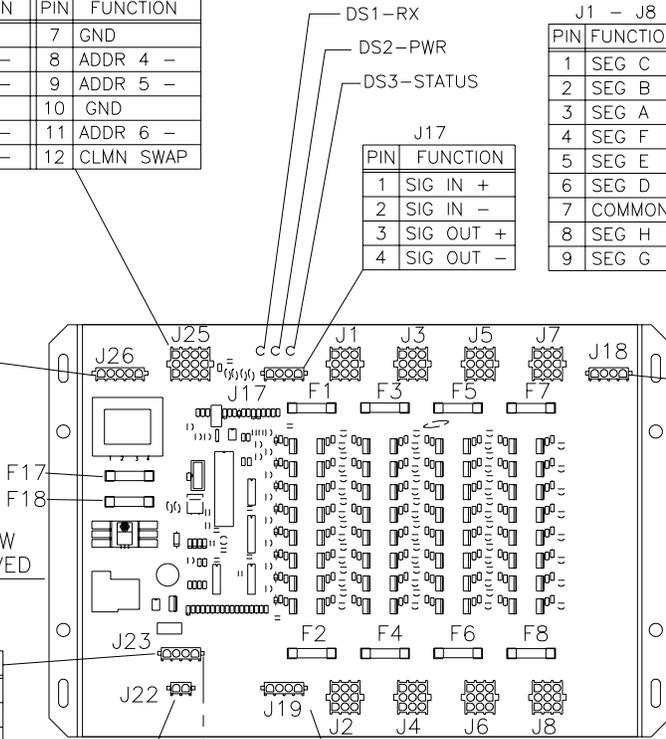
J26

PIN	FUNCTION
1	GND
2	PROT 0 -
3	PROT 1 -
4	PROT 2 -
5	TOD-N

J18

PIN	FUNCTION
1	LAMP NEUT
2	LAMP NEUT
3	LAMP HOT 1, 3, 5, 7
4	LAMP HOT 2, 4, 6, 8

DRIVER FRONT VIEW WITH COVER REMOVED



J23

PIN	FUNCTION
1	FAN SW HOT
2	NEUT
3	FAN HOT
4	NEUT

J22

PIN	FUNCTION
1	NORM OPEN
2	COMMON

J19

PIN	FUNCTION
1	NEUTRAL
2	NEUTRAL
3	120V HOT
4	120V HOT

PLUG FROM FAN IN COVER CONNECTS TO J23

F1 THRU F8 ARE TYPE AGC-10, DAKTRONICS PART NUMBER F-1006.
F17 THRU F18 ARE TYPE AGC-1/2, DAKTRONICS PART NUMBER F-1000

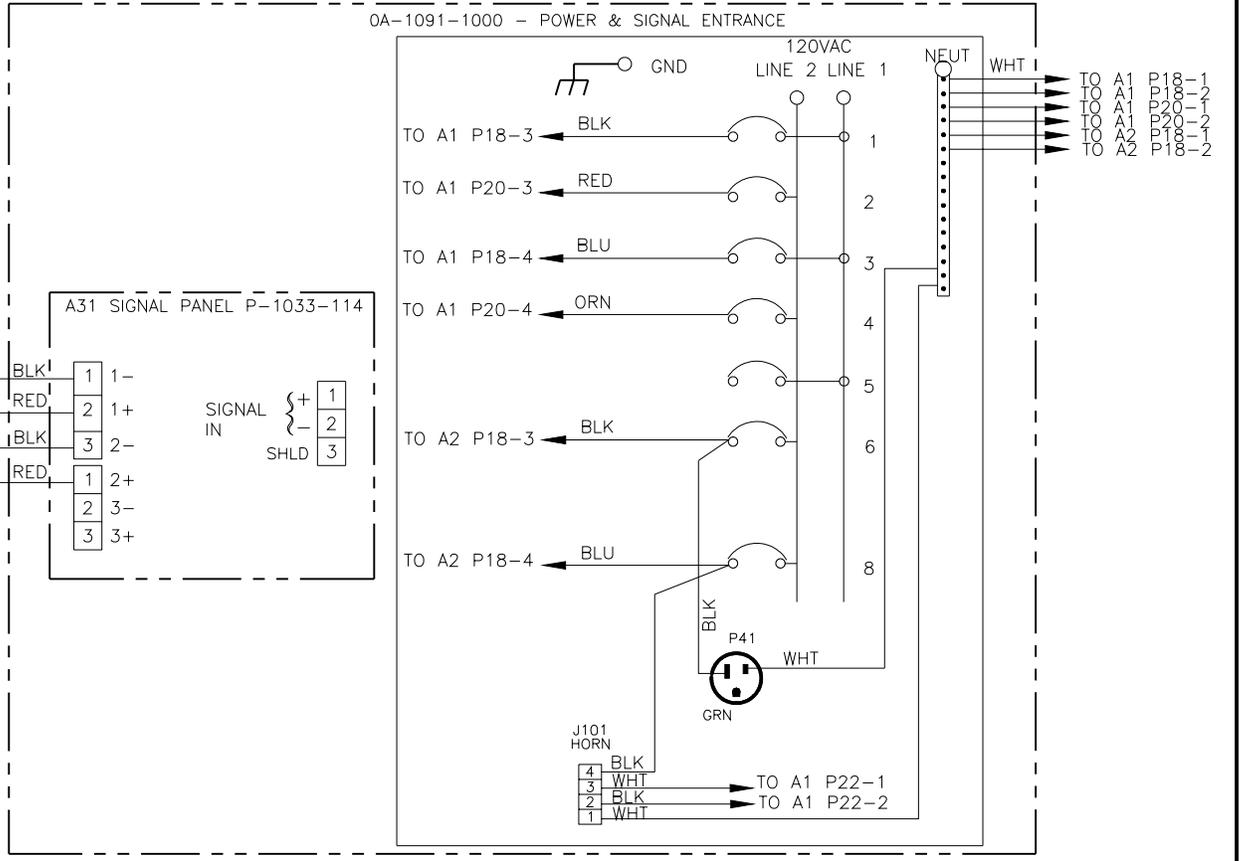
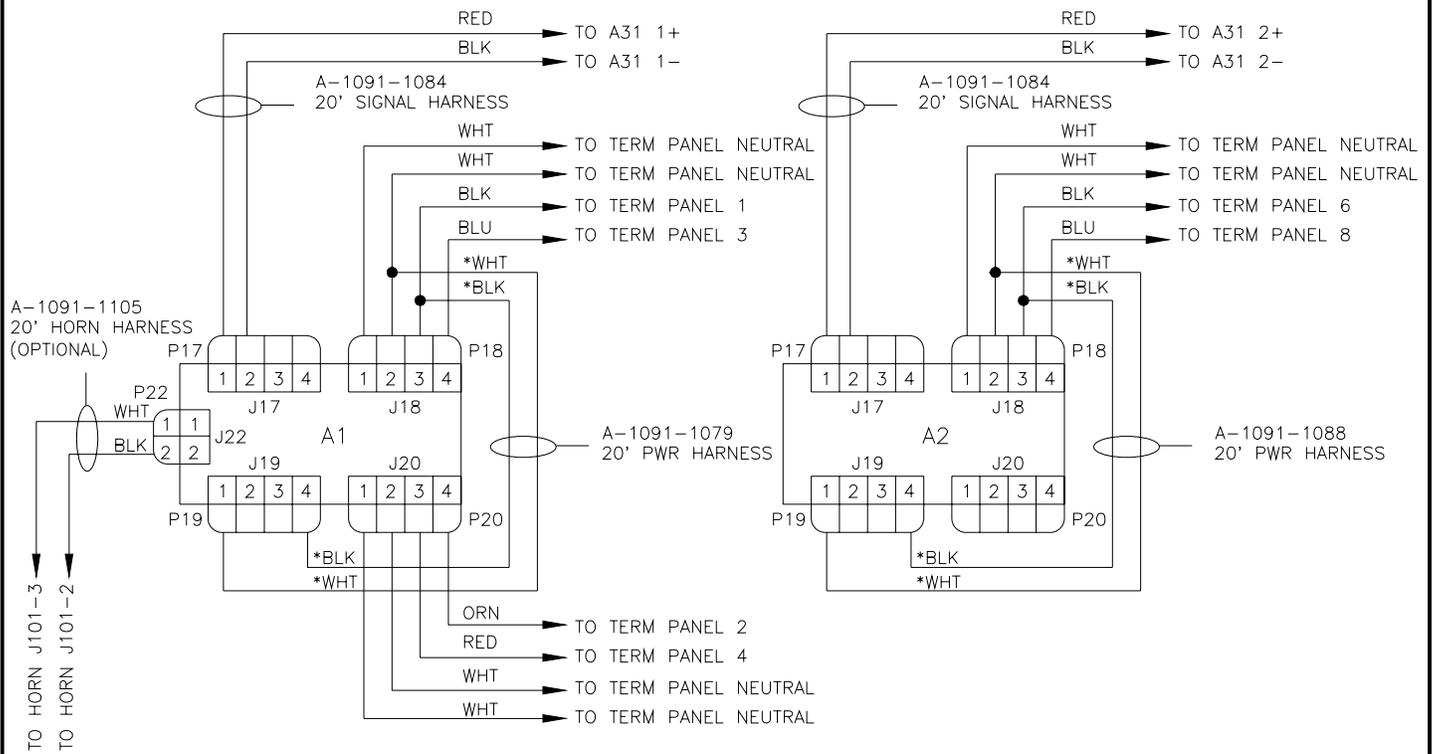
REV.	DATE	DESCRIPTION	BY	APPR.
4	2 OCT 00	CHANGED J25 & J26 TEXT -5 V TO GND	NSW	
3	29 SEP 00	CORRECTED J25 TABLE, CHANGED J26 TABLE PIN 5 FROM PROT 3 TO T.O.D.	AVB	
2	2 JUNE 00	CORRECTED J26 PINOUT TABLE	EB	
1	30 NOV 99	REMOVED DIMMING HEADER AND TABLE	EB	

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: _____
 TITLE: **LAYOUT; 8 COLUMN DRIVER III**
 DES. BY: **EB** DRAWN BY: **EB** DATE: **11 NOV 99**

REVISION APPR. BY: _____
 SCALE: **1=5**

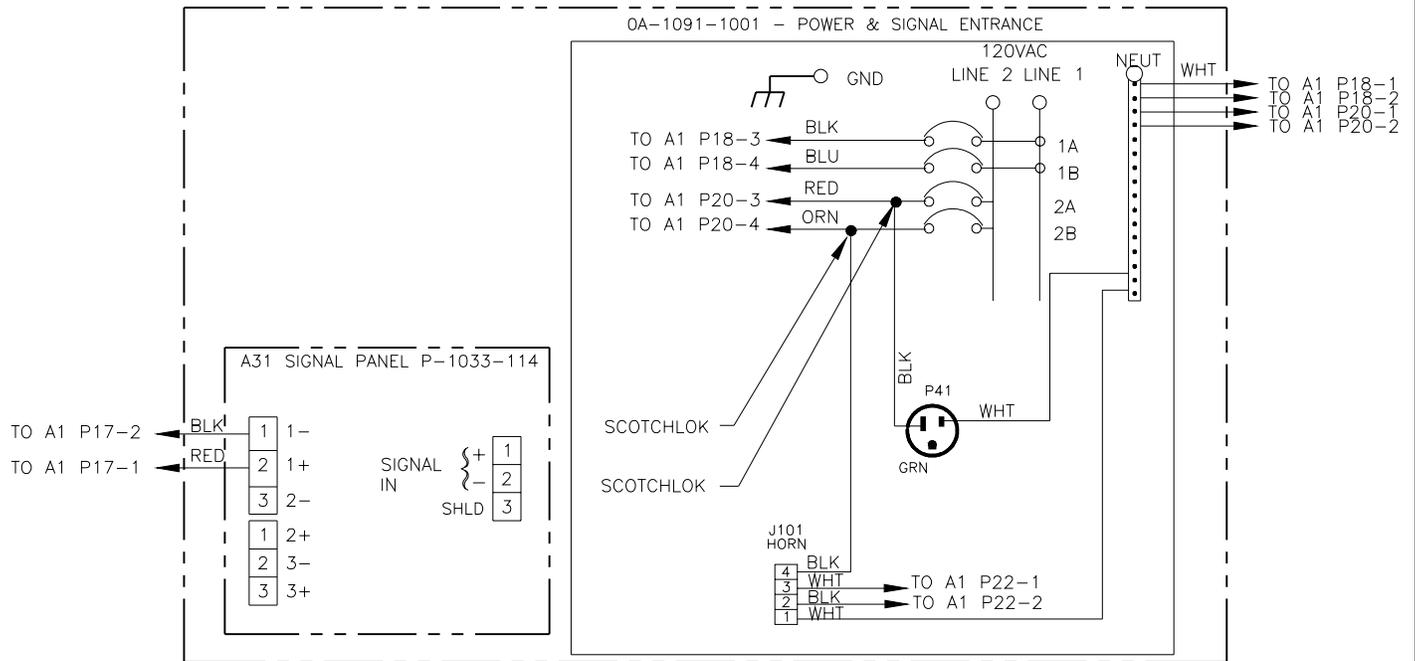
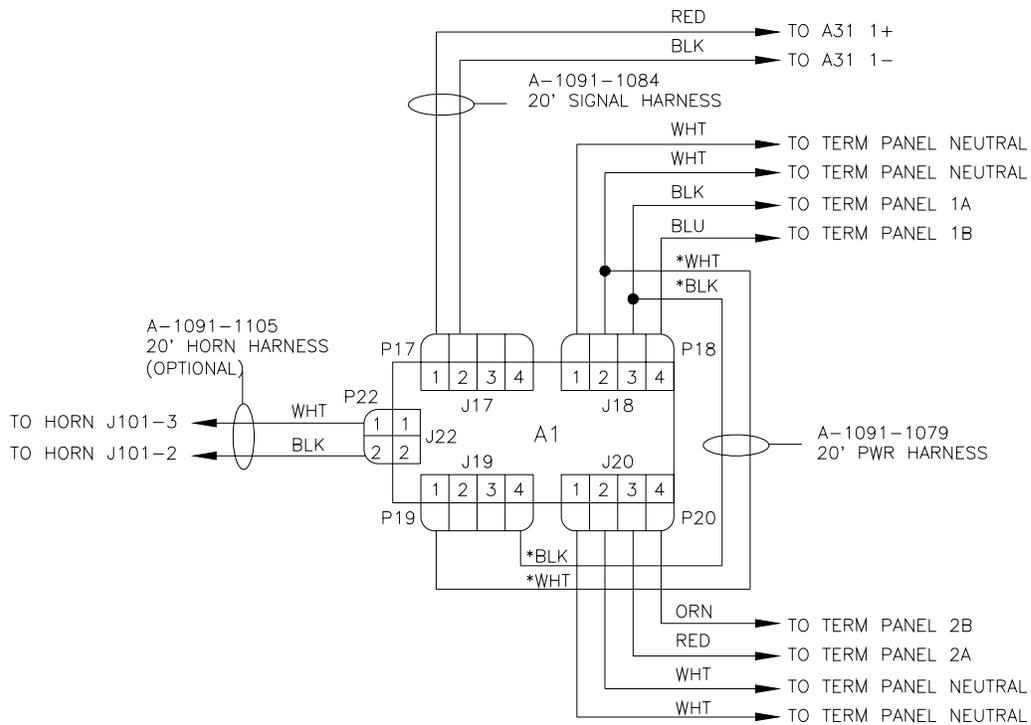
1033-R04A-123941



NOTE:
 ALL WIRE IS 12 AWG, EXCEPT * IS 14 AWG & SIGNAL PAIR IS 22 AWG.
 ALL BREAKERS ARE 20 AMP.

REV.	DATE	DESCRIPTION	BY	APPR.
4	17AUG00	UPDATED PANEL SCHEDULE MOVED A1 P18 TO 1&3 AND A1 P20 TO 2&4	CMC	
3	15MAY00	UPDATED POWER & SIGNAL ENTRANCE	RASMUS	
2	31JAN00	CHANGED POWER JACK & HORN JACK LAYOUT & UPDATED LAYOUT OF ENTRANCE ENCLOSURE	RASMUS	
1	13JAN2000	ADDED HORN INFORMATION	RASMUS	

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: SCHEMATIC; 2 DRIVERS	
DES. BY:	DRAWN BY: RASMUS DATE: 31DEC99
REVISION	APPR. BY:
SCALE: 1 = 1	1091-R03A-124291



REV.	DATE	DESCRIPTION	BY	APPR.
5	30MAY00	UPDATED COLOR CODE ON P-1033-114	RASMUS	
4	15MAY00	UPDATED POWER & SIGNAL ENTRANCE	RASMUS	
3	10MAY00	UPDATED LABELING OF SIGNAL	RASMUS	
2	31JAN00	UPDATED LAYOUT OF ENTRANCE ENCLOSURE	RASMUS	
1	13JAN2000	ADDED HORN INFORMATION	RASMUS	

NOTE:
ALL WIRE IS 12 AWG, EXCEPT * IS 14 AWG &
SIGNAL PAIR IS 22 AWG. ALL BREAKERS ARE
20 AMP.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

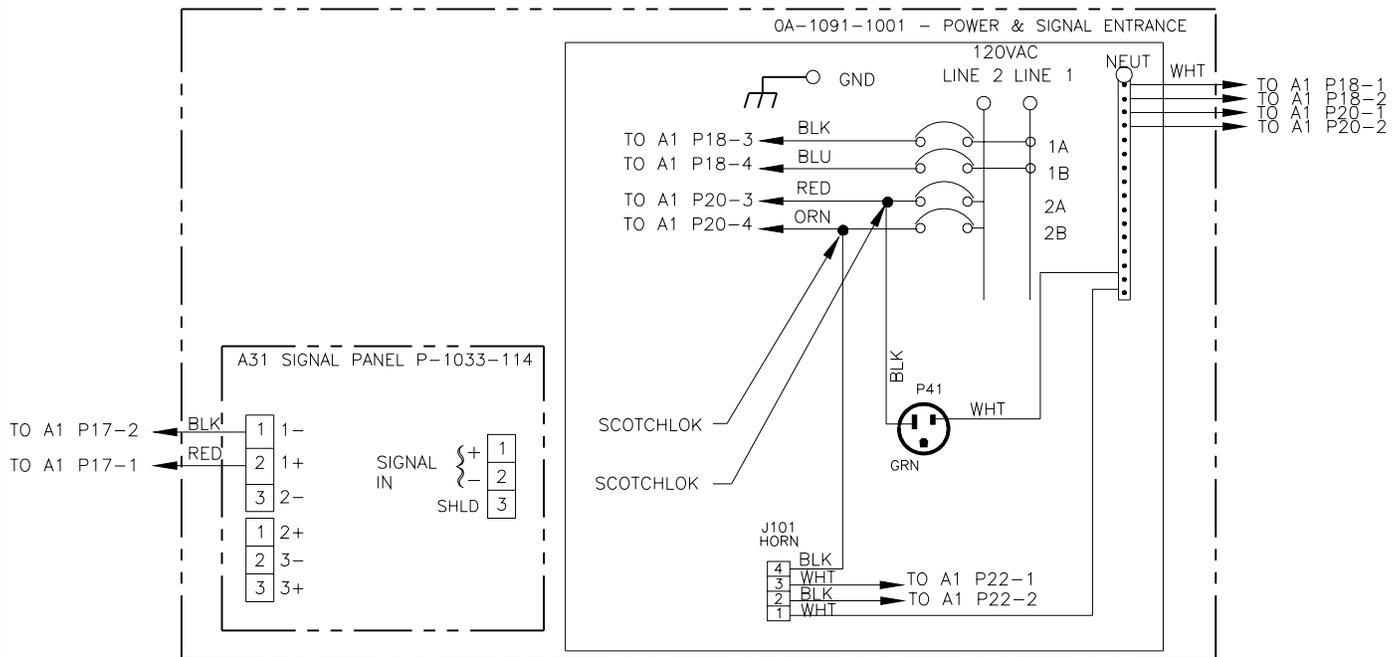
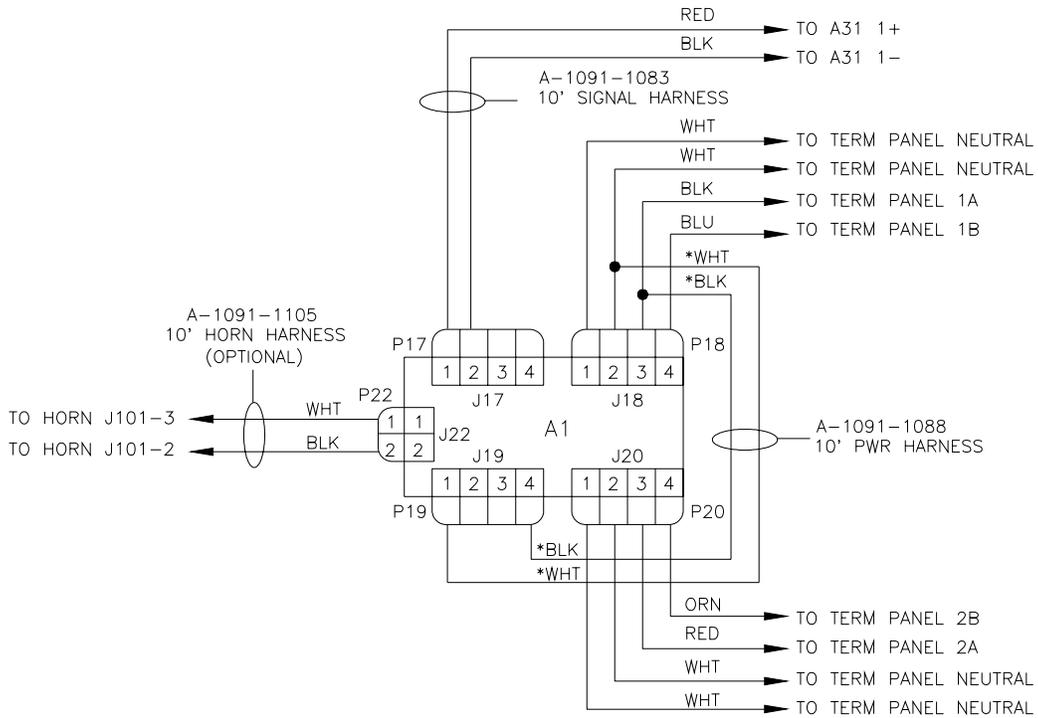
TITLE: SCHEMATIC; 1 DRIVERS

DES. BY: RASMUS DATE: 31DEC99

REVISION APPR. BY:

SCALE: 1=1

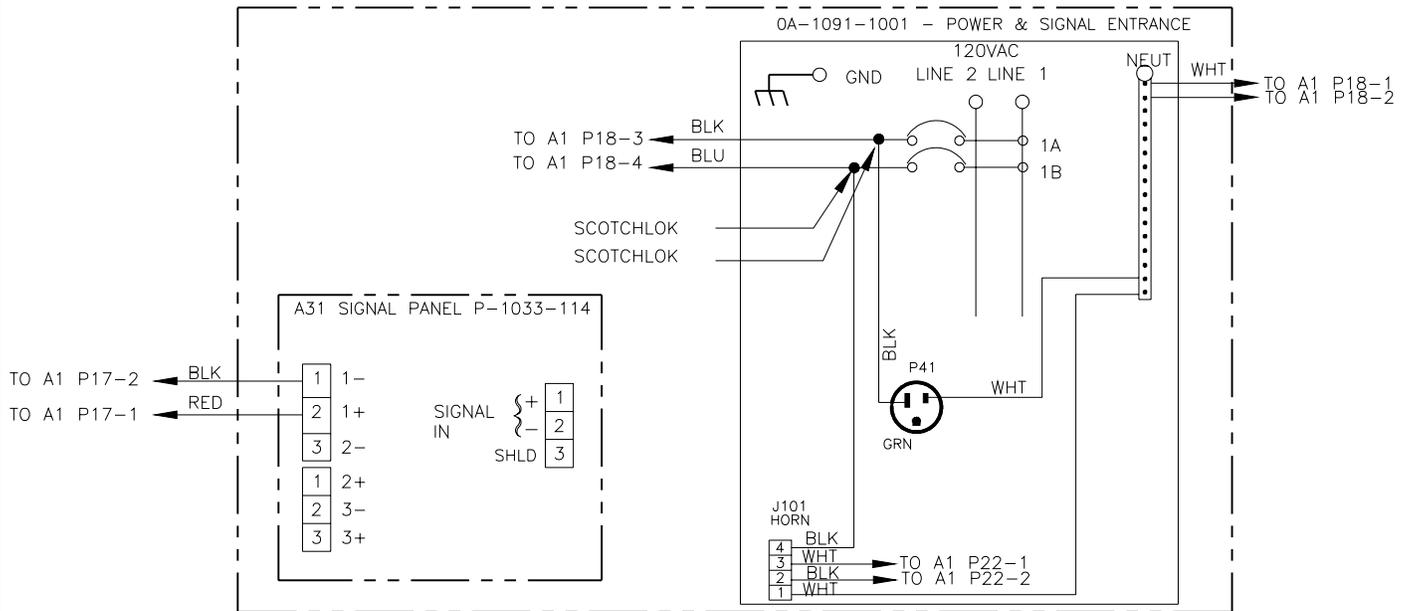
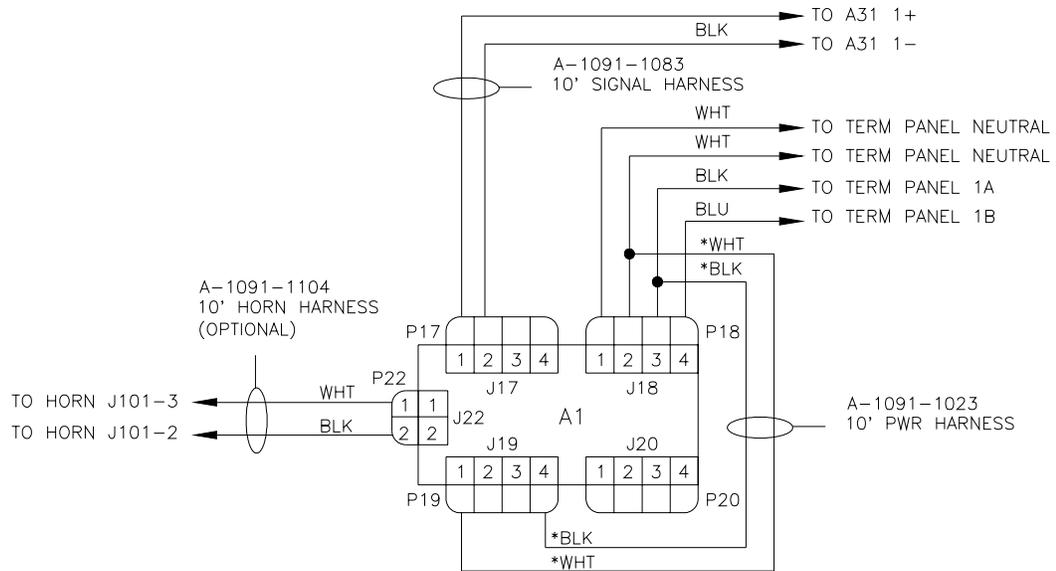
1091-R03A-124293



NOTE:
 ALL WIRE IS 12 AWG, EXCEPT * IS 14 AWG &
 SIGNAL PAIR IS 22 AWG. ALL BREAKERS ARE
 20 AMP.

REV.	DATE	DESCRIPTION	BY	APPR.
3	30MAY2000	ADDED OPTIONAL NOTED TO HORN HARNESS & UPDATED TERM PANEL	RASMUS	
2	31JAN00	UPDATED LAYOUT OF ENTRANCE ENCLOSURE	RASMUS	
1	13JAN2000	ADDED HORN INFORMATION	RASMUS	

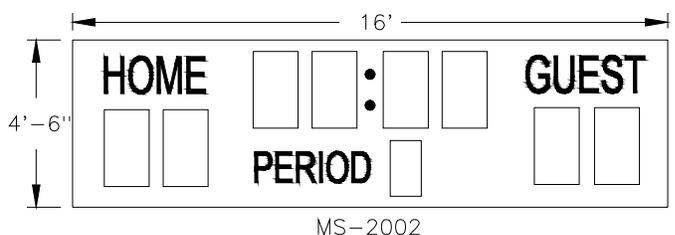
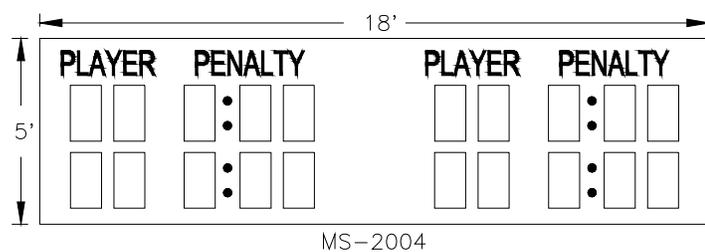
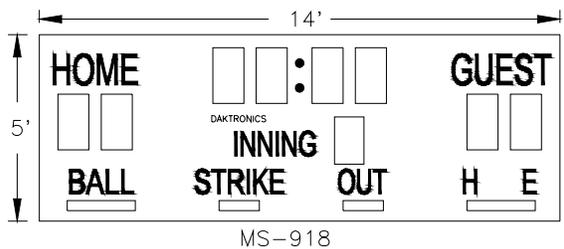
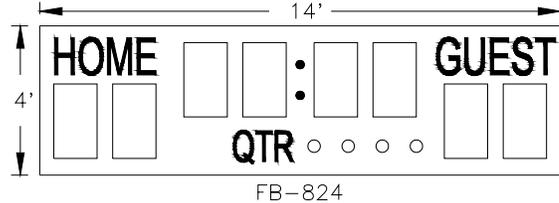
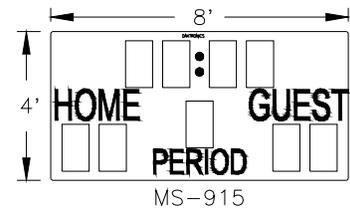
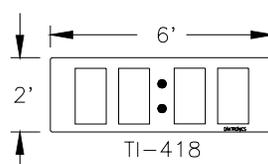
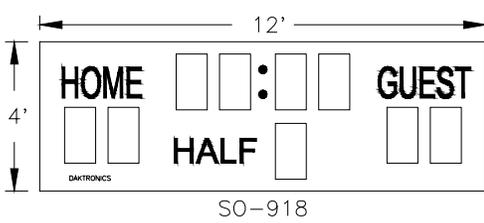
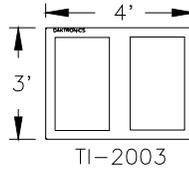
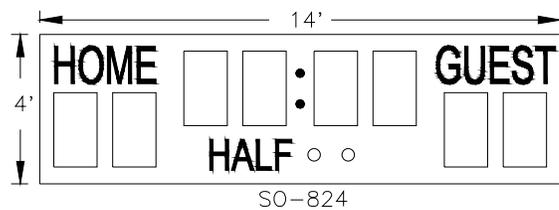
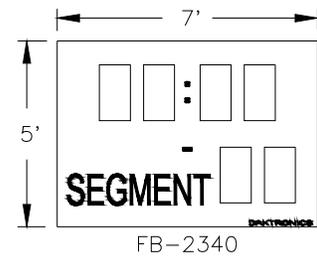
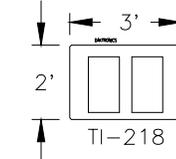
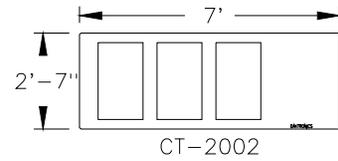
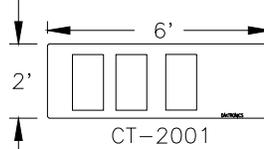
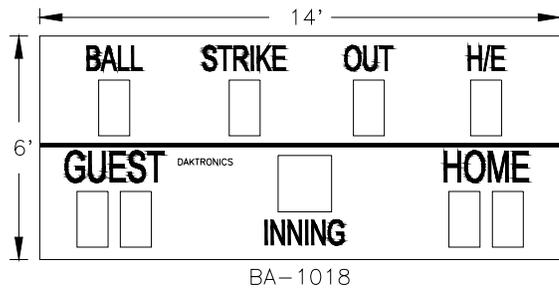
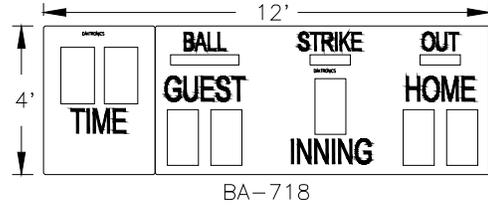
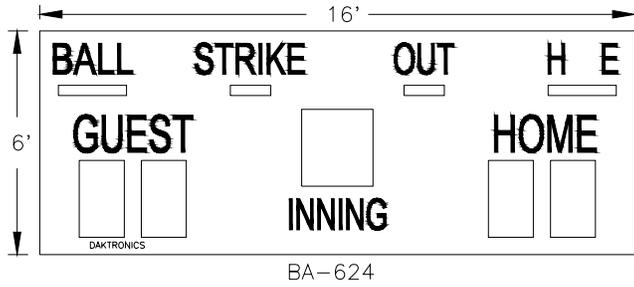
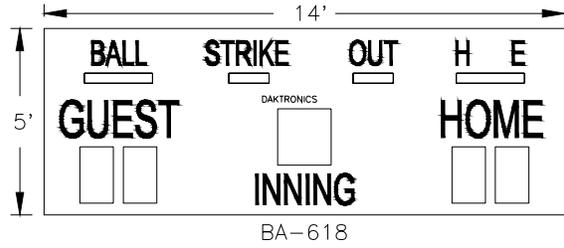
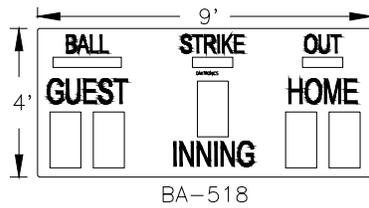
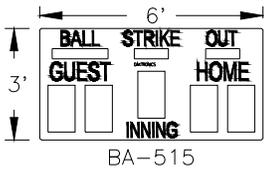
DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: SCHEMATIC; 1 DRIVER OVERSEAS	
DES. BY: RASMUS	DATE: 3JAN00
REVISION	APPR. BY:
SCALE: 1=1	1091-R03A-124296



NOTE:
ALL WIRE IS 12 AWG, EXCEPT * IS 14 AWG &
SIGNAL PAIR IS 22 AWG. ALL BREAKERS ARE
20 AMP.

REV.	DATE	DESCRIPTION	BY	APPR.
4	30MAY00	UPDATED COLOR CODE ON P-1033-114	RASMUS	
3	15MAY00	UPDATED POWER & SIGNAL ENTRANCE	RASMUS	
2	31JAN00	UPDATED LAYOUT OF ENTRANCE ENCLOSURE	RASMUS	
1	13JAN2000	ADDED HORN INFORMATION	RASMUS	

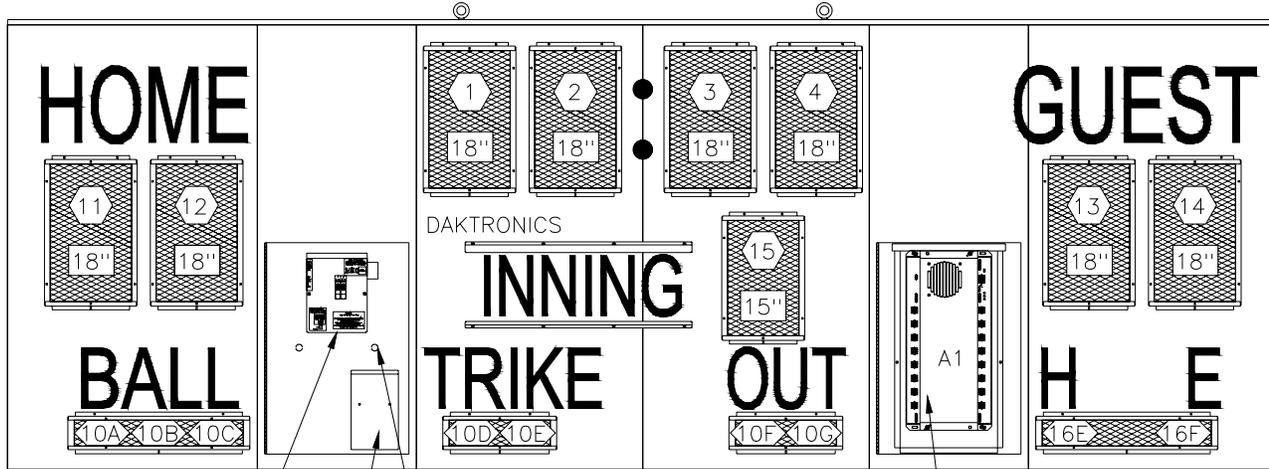
DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: SCHEMATIC; 1 DRIVER 8 COLUMN	
DES. BY: RASMUS	DRAWN BY: RASMUS
DATE: 31DEC99	
REVISION	APPR. BY:
SCALE: 1 = 1	1091-R03A-124298



REV.	DATE	DESCRIPTION	BY	APPR.
03	08NOV00	ON FB-2340 REPLACED PERIOD CAPTION WITH SEGMENT CAPTION.	JNILSE	
2	03OCT00	ADDED FB-2340	GDB	
01	02MAR00	ADDED MS-2004	BDP	

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	OUTDOOR INCANDESCENT SCOREBOARDS
TITLE:	SINGLE SECTION SCOREBOARD MODELS
DES. BY:	BPETERSON
DRAWN BY:	BPETERSON
DATE:	09DEC99
REVISION	APPR. BY:
SCALE:	1=60
1091-E10A-124342	

MS-918



POWER & SIGNAL ENTRANCE

HORN (OPTIONAL)

22

KNOCKOUTS FOR 1/2" CONDUIT

FRONT VIEW

ENCLOSED 16 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

- 12 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.
- 10H = LAMP DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR
- 18" = DIGIT SIZE

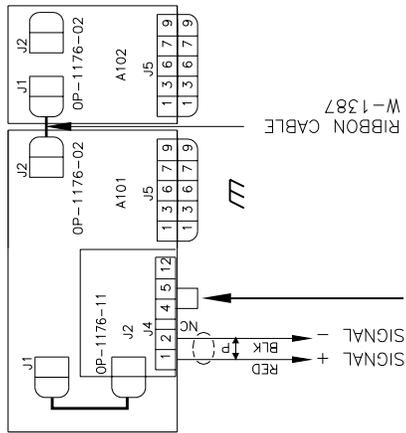
HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE: COMPONENT LOCATIONS, MS-918			
DES. BY: BPETERSON		DRAWN BY: BPETERSON	
		DATE: 02DEC99	
REVISION	APPR. BY:	1091-E10A-124343	
	SCALE: 1=25		

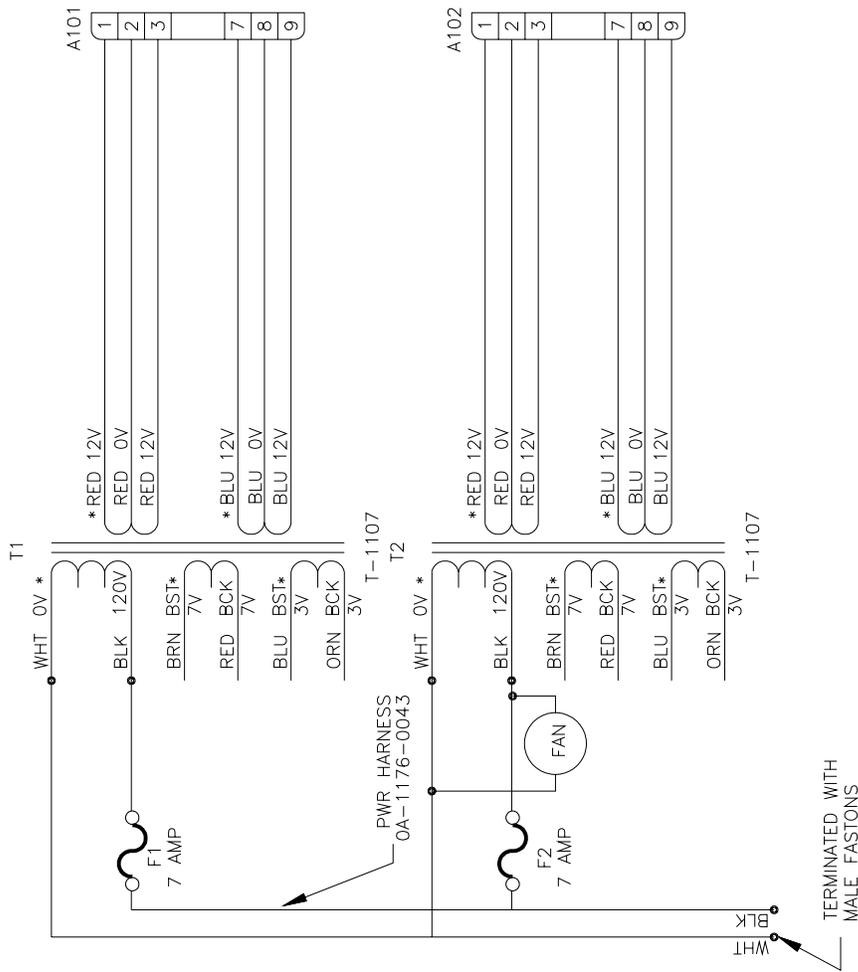
1	04MAY01	CHANGED LAMP DRIVER CONNECTOR & SEGMENT NO. FROM 10E TO 16E AND 10F TO 16F FOR THE H AND E INDICATORS.	TWEBER	
REV.	DATE	DESCRIPTION	BY	APPR.

REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	LARGE OUTDOOR SCOREBOARDS
TITLE:	SCHEMATIC; 832-10TNMC
DES. BY:	DRAWN BY: RASMUS
	DATE: 3JAN00
REVISION	APPR. BY:
	SCALE: 1 = 1
1157-R03A-125214	

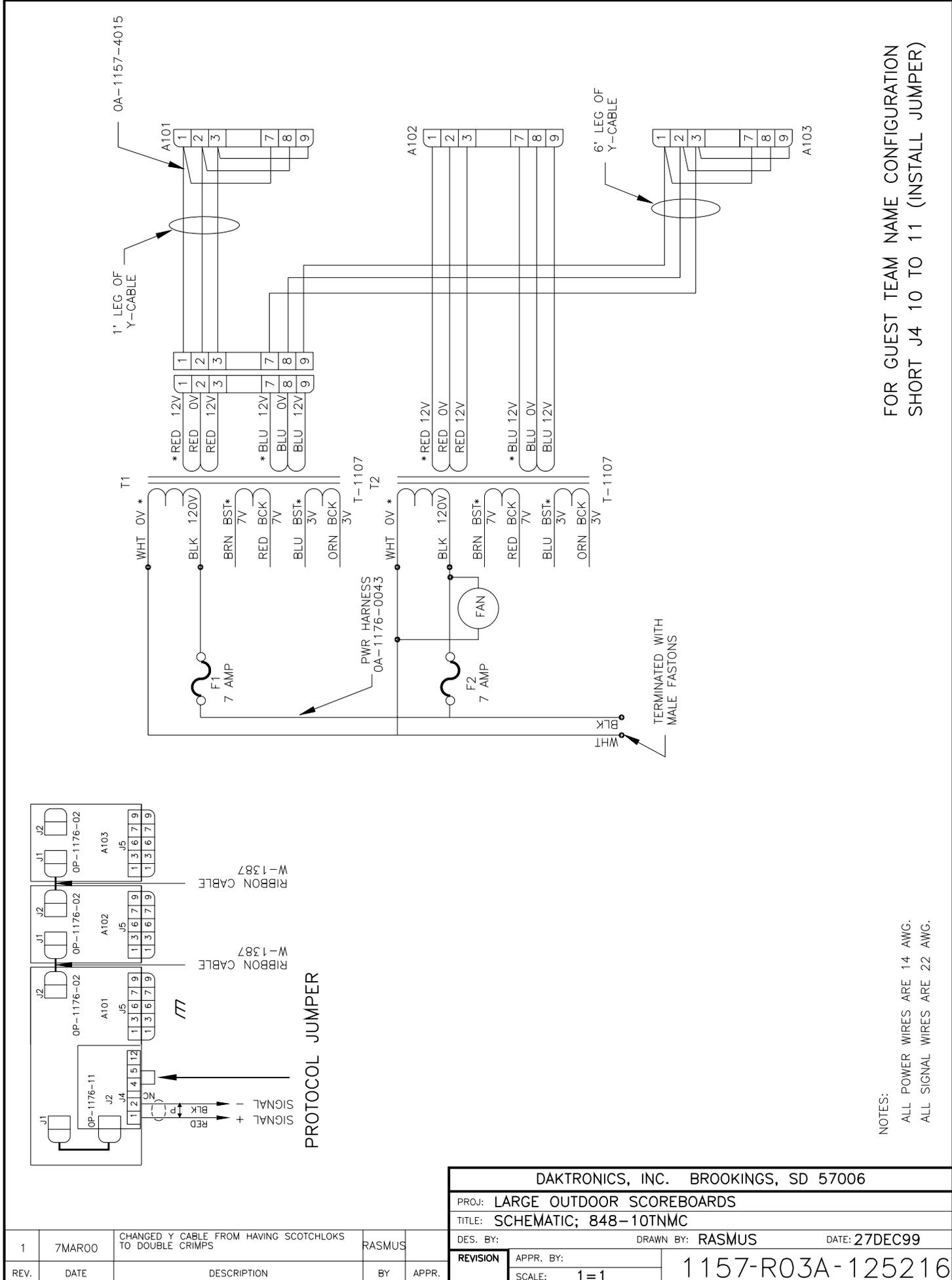


PROTOCOL JUMPER



FOR GUEST TEAM NAME CONFIGURATION
SHORT J4 10 TO 11 (INSTALL JUMPER)

NOTES:
ALL POWER WIRES ARE 14 AWG.
ALL SIGNAL WIRES ARE 22 AWG.

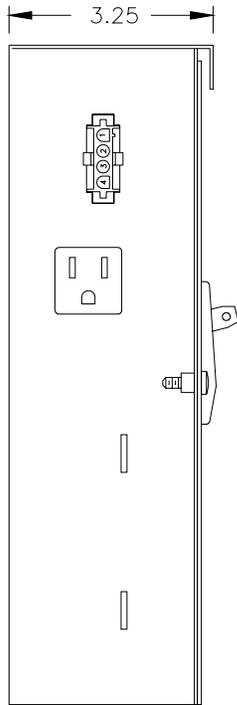


FOR GUEST TEAM NAME CONFIGURATION
SHORT J4 10 TO 11 (INSTALL JUMPER)

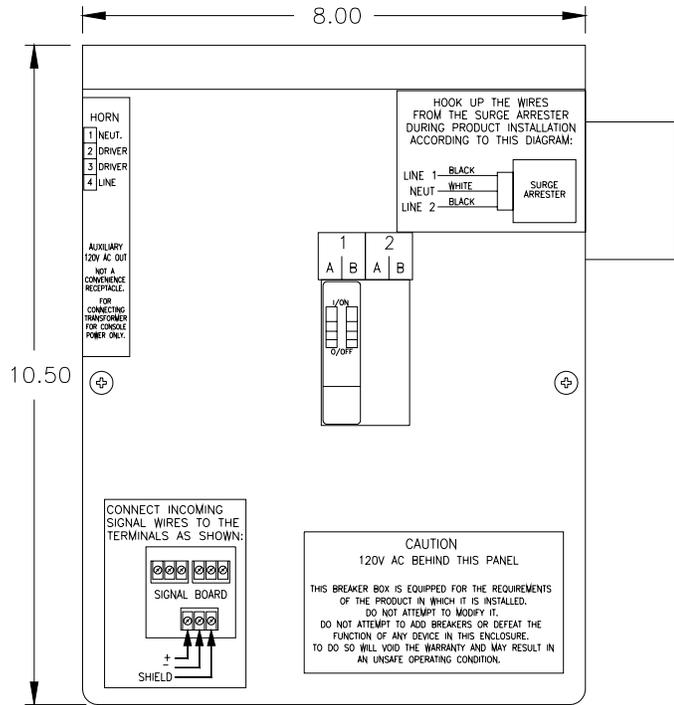
NOTES:
ALL POWER WIRES ARE 14 AWG.
ALL SIGNAL WIRES ARE 22 AWG.

REV.	DATE	DESCRIPTION	BY	APPR.
1	7MAR00	CHANGED Y CABLE FROM HAVING SCOTCHLOKS TO DOUBLE CRIMPS	RASMUS	

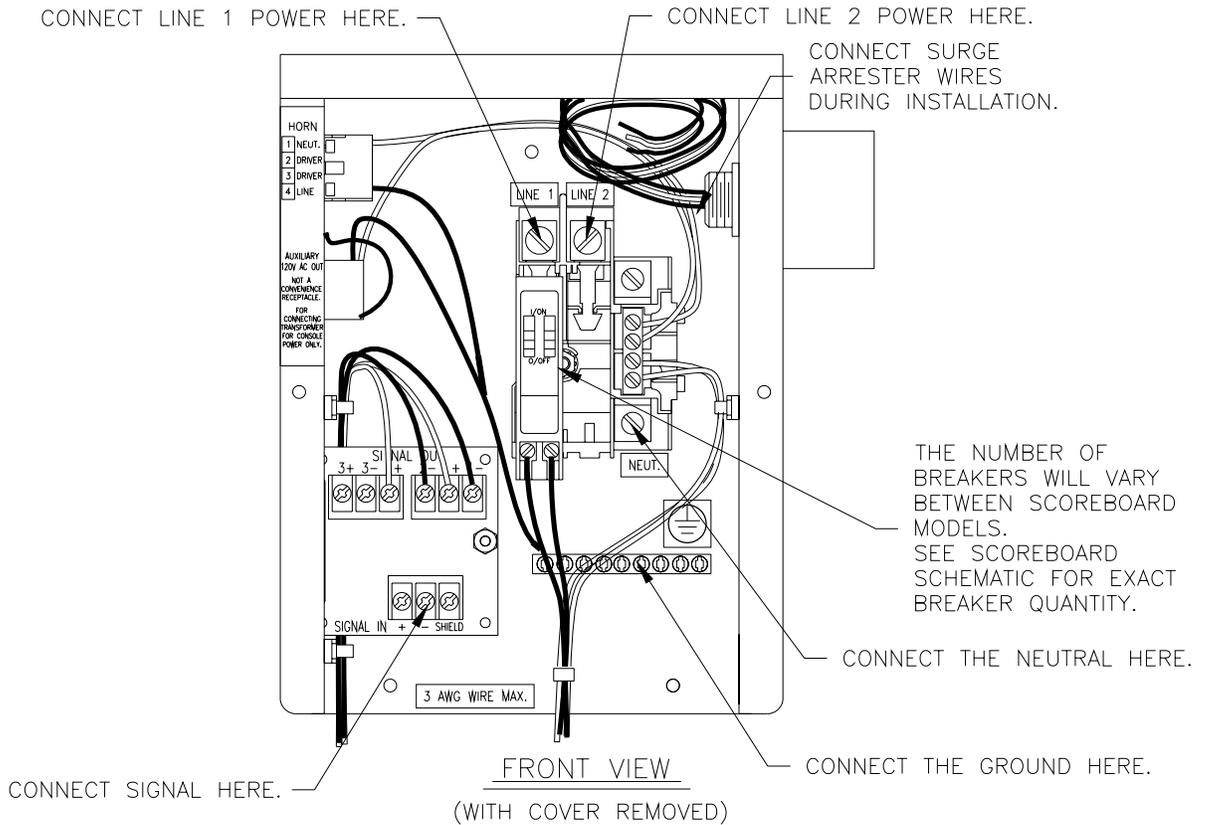
DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	LARGE OUTDOOR SCOREBOARDS
TITLE:	SCHEMATIC; 848-10TNMC
DES. BY:	RASMUS
DRAWN BY:	RASMUS
DATE:	27DEC99
REVISION	APPR. BY:
SCALE:	1 = 1
1157-R03A-125216	



LEFT SIDE



FRONT VIEW

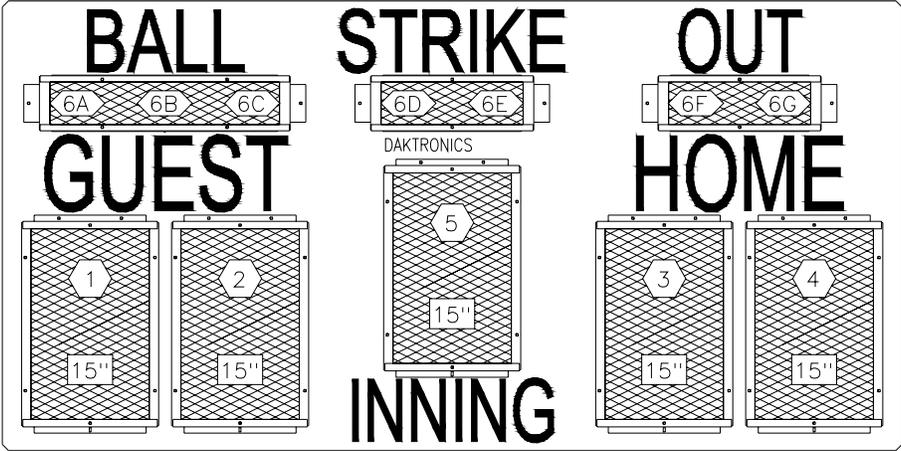


FRONT VIEW
(WITH COVER REMOVED)

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: COMPONENTS, 2/4 POS, POWER AND SIGNAL ENTRANCE	
DES. BY: BPETERSON	DATE: 04JAN00
REVISION	APPR. BY:
SCALE: 1=3	1091-E10A-125977

01	17JAN01	ADDED TB-1037 AND REMOVED GROUND LUG	MCOPL
REV.	DATE	DESCRIPTION	BY APPR.

BA-515

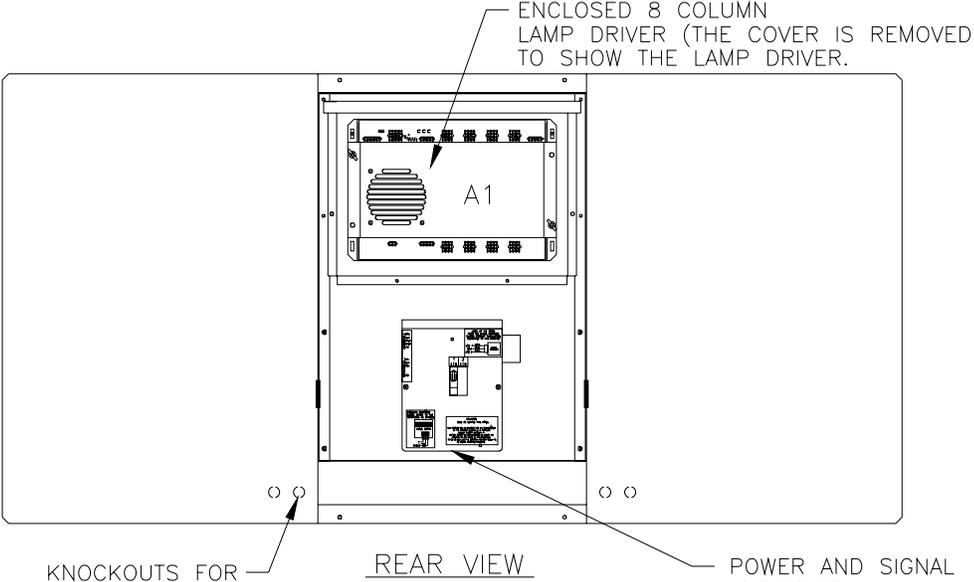


FRONT VIEW

① = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT

⑥A = LAMP DRIVER CONNECTOR AND SEGMENT (PIN) NUMBER WIRED TO THAT INDICATOR

15" = DIGIT SIZE



REAR VIEW

KNOCKOUTS FOR 1/2" CONDUIT

POWER AND SIGNAL ENTRANCE

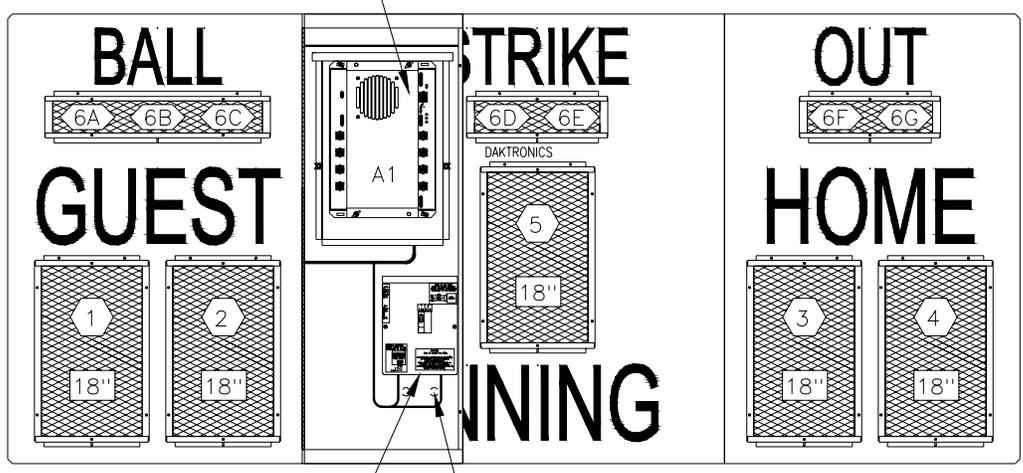
ACCESS PANEL REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE: COMPONENT LOCATIONS, BA-515			
DES. BY: GBREEN		DRAWN BY: CGROSS	DATE: 10 JAN 00
REVISION	APPR. BY:	1091-E10A-126083	
SCALE: 1=15			

REV.	DATE	DESCRIPTION	BY	APPR.

BA-518

ENCLOSED 8 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)



POWER AND SIGNAL ENTRANCE
 KNOCKOUTS FOR 1/2" CONDUIT

FRONT VIEW

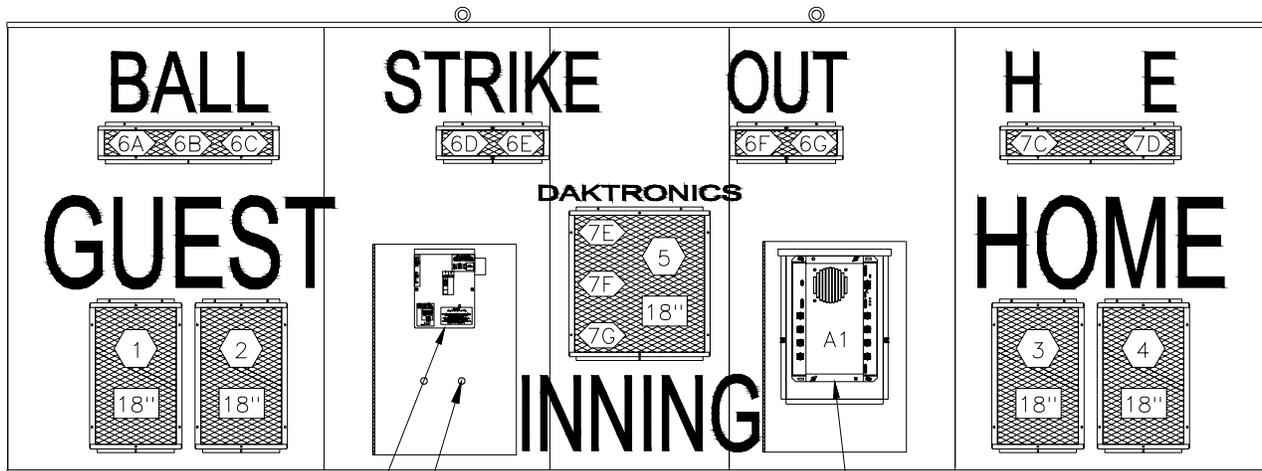
- ① = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.
- ⑥A = LAMP DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR
- 18" = DIGIT SIZE

HINGED ACCESS DOOR REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: COMPONENT LOCATIONS, BA-518	
DES. BY: GBREEN	DRAWN BY: CGROSS
DATE: 10 JAN 00	
REVISION	APPR. BY:
SCALE: 1=20	1091-E10A-126084

REV.	DATE	DESCRIPTION	BY	APPR.

BA-618



POWER & SIGNAL ENTRANCE

KNOCKOUTS FOR 1/2" CONDUIT

FRONT VIEW

ENCLOSED 8 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

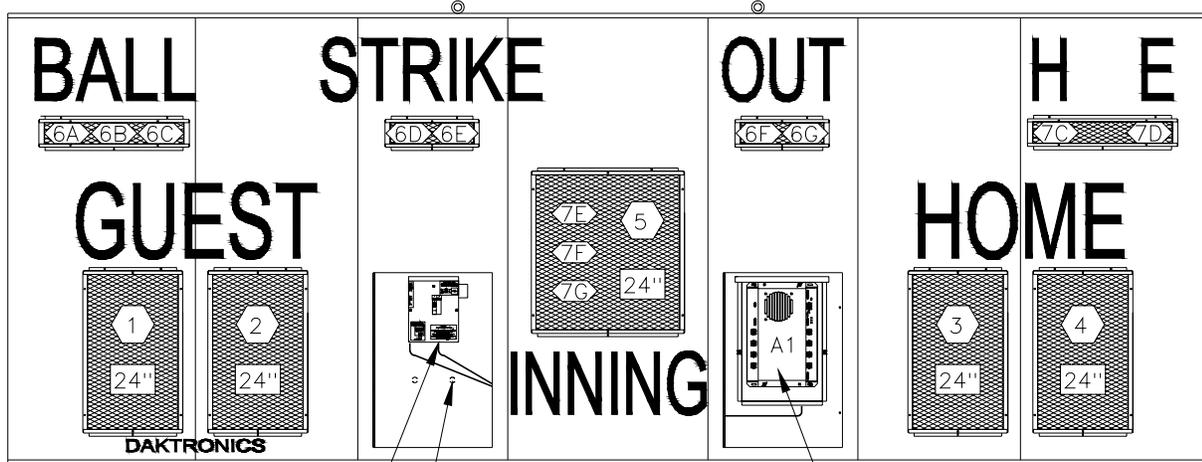
- ⬡12 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.
- ⬡6A = LAMP DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR
- 18" = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: COMPONENT LOCATIONS, BA-618	
DES. BY: BPETERSON	DRAWN BY: RNIELSEN
DATE: 10JAN00	
REVISION	APPR. BY:
	SCALE: 1=25
1091-E10A-126221	

REV.	DATE	DESCRIPTION	BY	APPR.

BA-624



POWER AND SIGNAL ENTRANCE

KNOCKOUTS FOR 1/2" CONDUIT

FRONT VIEW

ENCLOSED 8 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

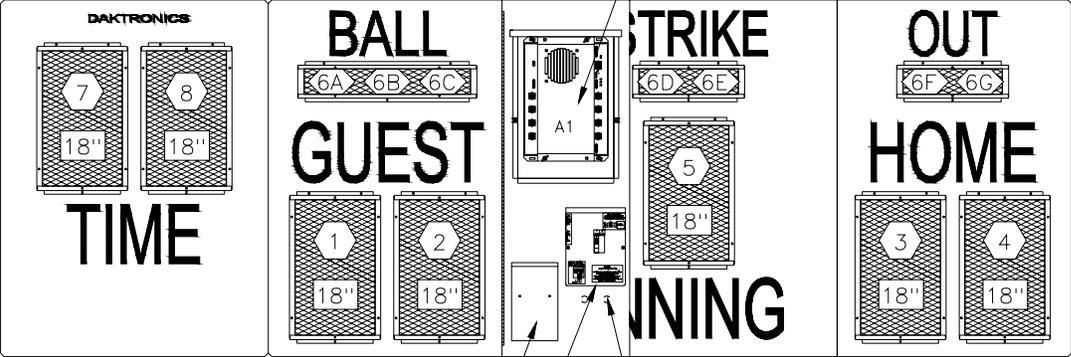
- ① = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.
- ⑥A = LAMP DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR
- 24" = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS				
TITLE: COMPONENT LOCATIONS, BA-624				
DES. BY: GBREEN		DRAWN BY: CGROSS		DATE: 11 JAN 00
REV.	DATE	DESCRIPTION	BY	APPR.
REVISION			APPR. BY:	1091-E10A-126285
			SCALE: 1=30	

BA-718

ENCLOSED 8 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)



22 HORN (OPTIONAL)
 POWER & SIGNAL ENTRANCE
 KNOCKOUTS FOR 1/2" CONDUIT

FRONT VIEW

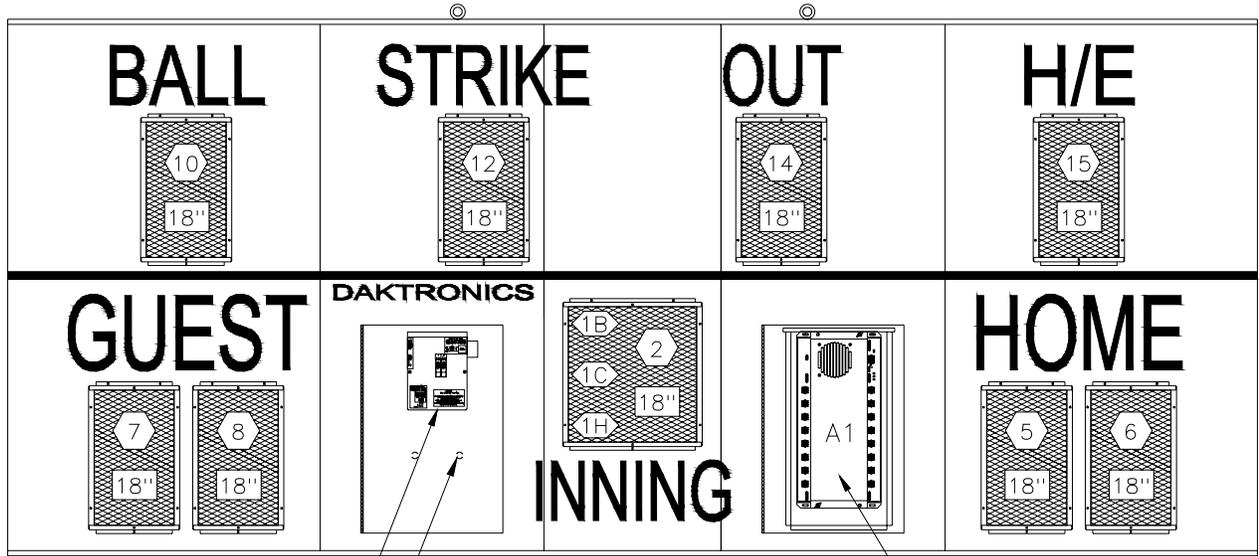
- 5 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.
- 6A = LAMP DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR
- 18" = DIGIT SIZE

HINGED ACCESS DOOR REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE: COMPONENT LOCATIONS, BA-718			
DES. BY: BPETERSON	DRAWN BY: RNIELSEN	DATE: 11JAN00	
REVISION	APPR. BY:	1091-E10A-126306	
	SCALE: 1=25		

REV.	DATE	DESCRIPTION	BY	APPR.

BA-1018



POWER & SIGNAL ENTRANCE

KNOCKOUTS FOR 1/2" CONDUIT

FRONT VIEW

ENCLOSED 16 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

⬡5 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

⬡1C = LAMP DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR

18" = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

TITLE: COMPONENT LOCATIONS, BA-1018

DES. BY: BPETERSON

DRAWN BY: RNIELSEN

DATE: 12JAN00

REVISION

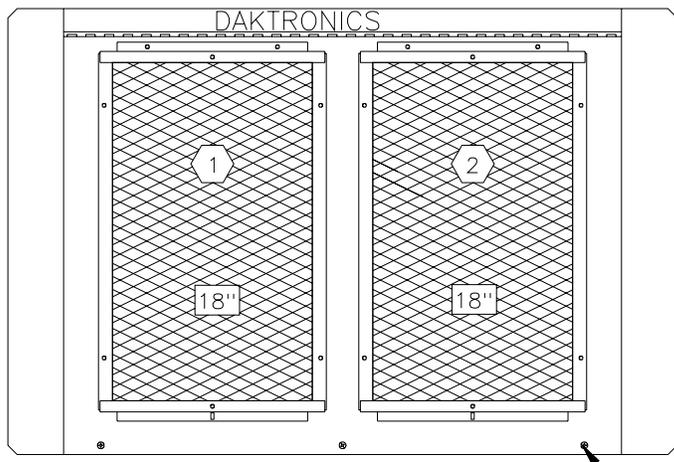
APPR. BY:

SCALE: 1=25

1091-E10A-126353

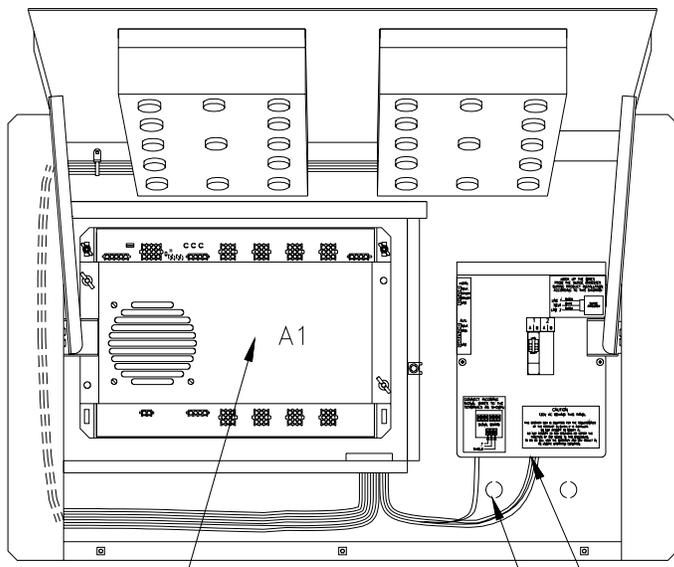
REV.	DATE	DESCRIPTION	BY	APPR.

TI-218



FRONT VIEW

REMOVE SCREWS TO ACCESS LAMP DRIVER & ENTRANCE



FRONT VIEW
ACCESS DOOR OPEN

ENCLOSED 8 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

POWER & SIGNAL ENTRANCE

KNOCKOUTS FOR 1/2" CONDUIT

1 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

18" = DIGIT SIZE

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

TITLE: COMPONENT LOCATIONS, TI-218

DES. BY: BPETERSON

DRAWN BY: RNIELSEN

DATE: 12JAN00

REVISION

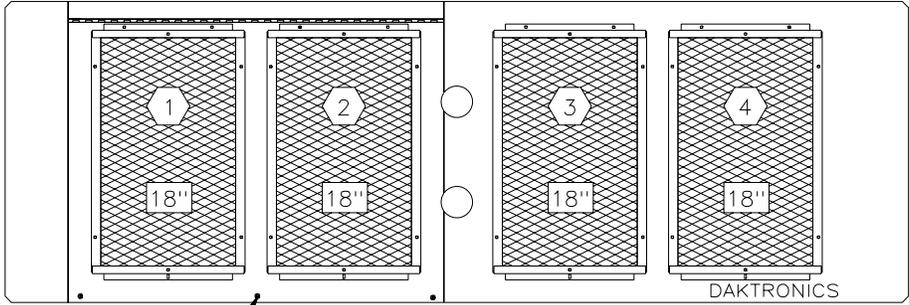
APPR. BY:

SCALE: 1=10

1091-E10A-126364

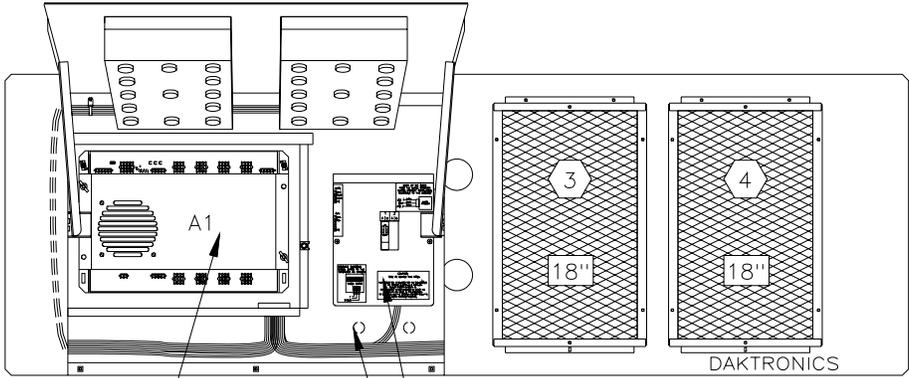
REV.	DATE	DESCRIPTION	BY	APPR.

TI-418



REMOVE SCREWS TO ACCESS LAMP DRIVER & ENTRANCE

FRONT VIEW



ENCLOSED 8 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

POWER & SIGNAL ENTRANCE

KNOCKOUTS FOR 1/2" CONDUIT

FRONT VIEW
ACCESS DOOR OPEN

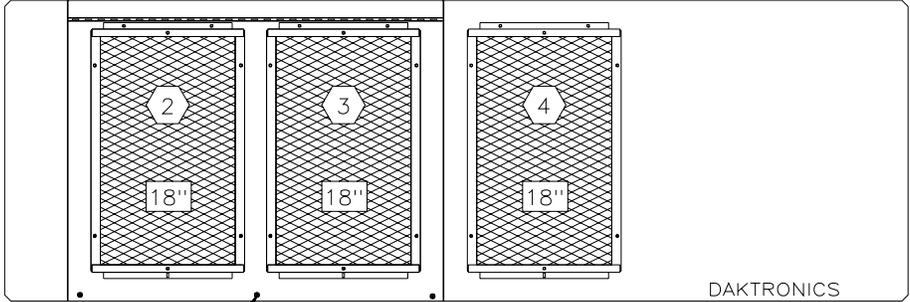
⬡1 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

18" = DIGIT SIZE

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: COMPONENT LOCATIONS, TI-418	
DES. BY: BPETERSON	DRAWN BY: RNIELSEN
DATE: 12JAN00	
REVISION	APPR. BY:
SCALE: 1=15	1091-E10A-126372

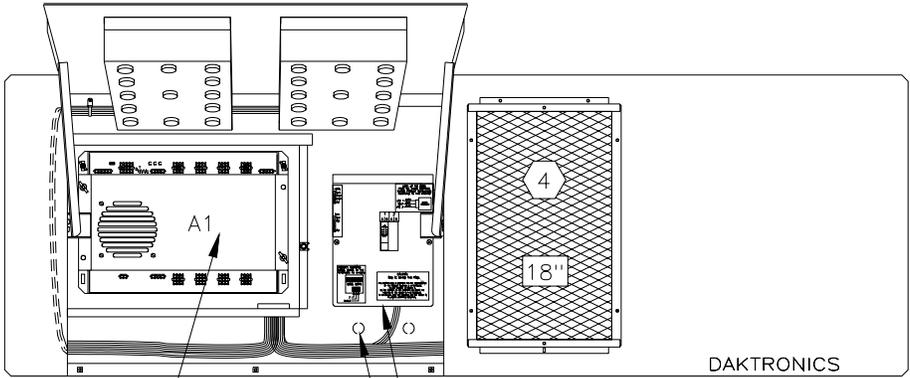
REV.	DATE	DESCRIPTION	BY	APPR.

CT-2001



REMOVE SCREWS TO ACCESS LAMP DRIVER & ENTRANCE

FRONT VIEW



ENCLOSED 8 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

POWER & SIGNAL ENTRANCE

KNOCKOUTS FOR 1/2" CONDUIT

FRONT VIEW

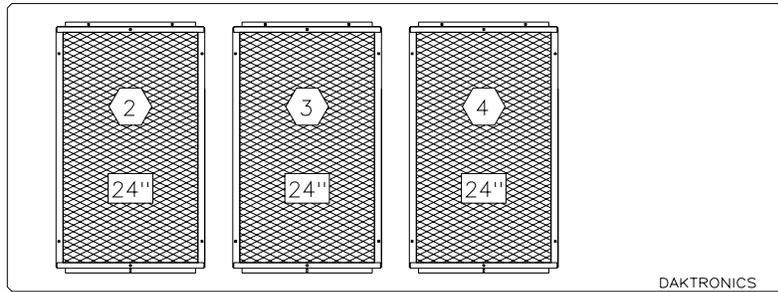
ACCESS DOOR OPEN

① = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

18" = DIGIT SIZE

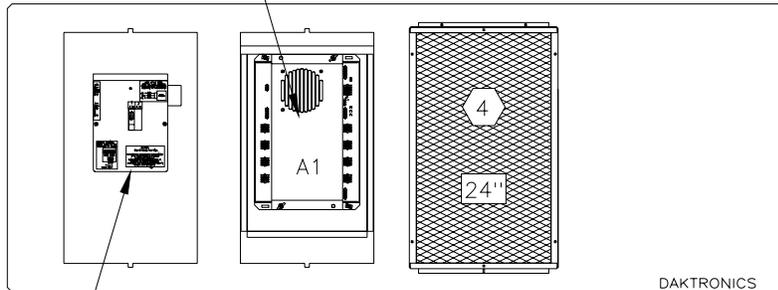
DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS				
TITLE: COMPONENT LOCATIONS, CT-2001				
DES. BY: BPETERSON		DRAWN BY: RNIELSEN		DATE: 17JAN00
1	04MAY01	CHANGED LAMPDRIVER CONNECTOR NUMBERS FROM 1, 2 AND 3 TO 2, 3 AND 4.	TWEBER	
REV.	DATE	DESCRIPTION	BY	APPR.
			REVISION	APPR. BY:
			SCALE: 1=15	1091-E10A-126429

CT-2002



FRONT VIEW

ENCLOSED 8 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)



POWER AND SIGNAL ENTRANCE

FRONT VIEW

FIRST TWO DIGITS REMOVED

① = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

24" = DIGIT SIZE

FIRST TWO DIGITS ARE REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

TITLE: COMPONENT LOCATIONS, CT-2002

DES. BY: BPETERSON

DRAWN BY: RNIELSEN

DATE: 19JAN00

REV.	DATE	DESCRIPTION	BY	APPR.
1	04MAY01	CHANGED LAMP DRIVER CONNECTOR NUMBERS FROM 1, 2 AND 3 TO 2, 3 AND 4.	TWEBER	

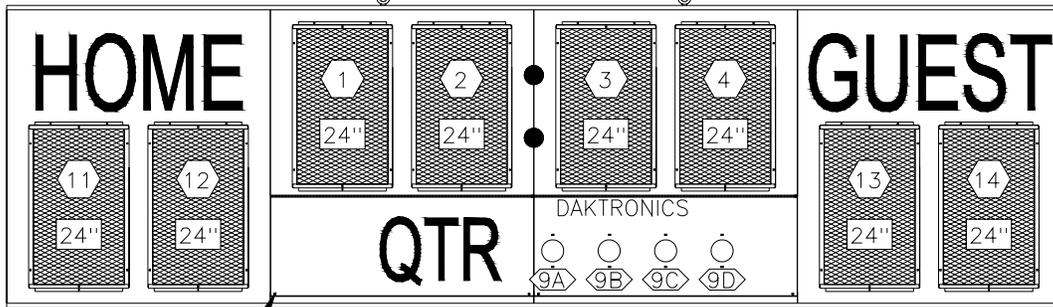
REVISION

APPR. BY:

SCALE: 1=20

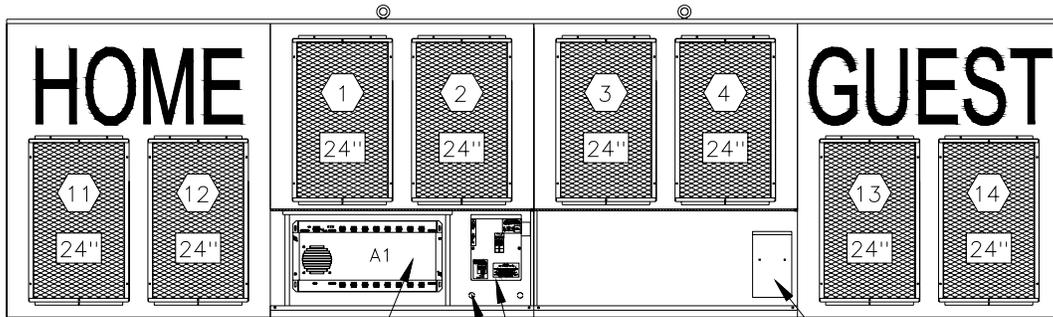
1091-E10A-126430

FB-824



REMOVE SCREWS TO ACCESS LAMP DRIVER & ENTRANCE

FRONT VIEW



ENCLOSED 16 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

POWER & SIGNAL ENTRANCE

HORN (OPTIONAL)

KNOCKOUT FOR 1/2" CONDUIT

FRONT VIEW

① = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

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

24" = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

TITLE: COMPONENT LOCATIONS, FB-824

DES. BY: BPETERSON

DRAWN BY: RNIELSEN

DATE: 17JAN00

REVISION

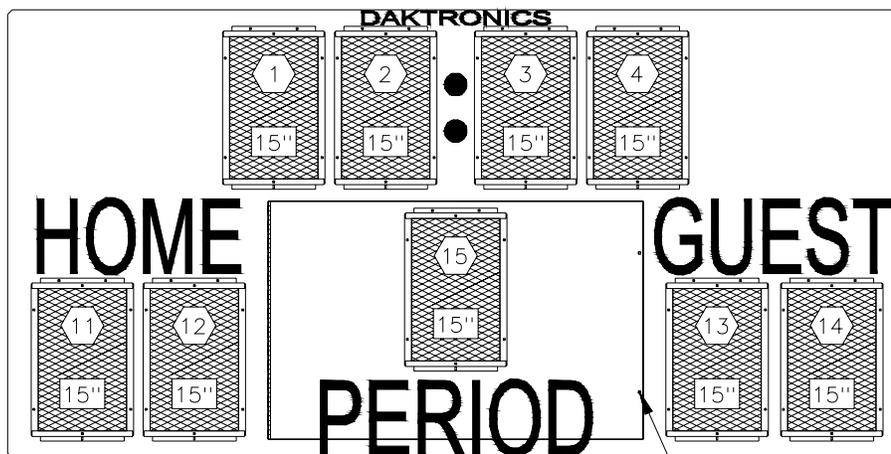
APPR. BY:

SCALE: 1=30

1091-E10A-126431

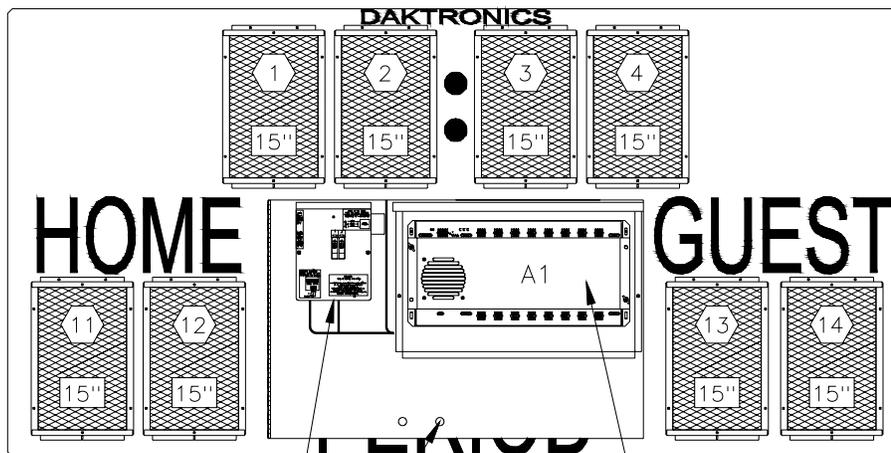
REV.	DATE	DESCRIPTION	BY	APPR.

MS-915



FRONT VIEW

REMOVE SCREWS TO ACCESS LAMP DRIVER & ENTRANCE



FRONT VIEW

POWER & SIGNAL ENTRANCE

KNOCKOUTS FOR 1/2" CONDUIT

ENCLOSED 16 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

1 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

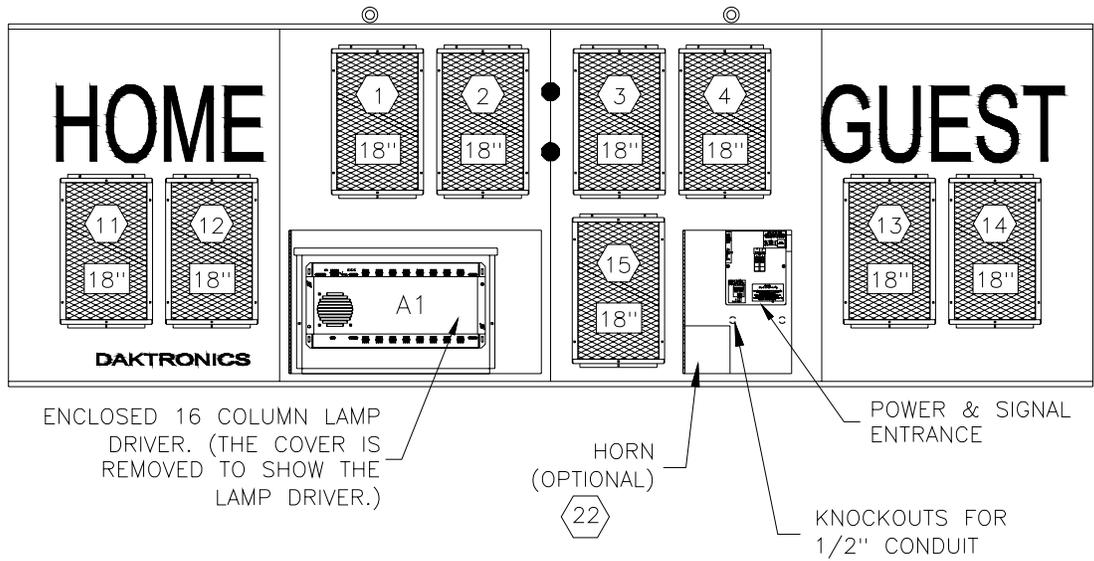
15" = DIGIT SIZE

HINGED ACCESS DOOR REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE: COMPONENT LOCATIONS, MS-915			
DES. BY: BPETERSON		DRAWN BY: RNIELSEN	DATE: 17JAN00
REVISION	APPR. BY:	1091-E10A-126432	
SCALE: 1=20			

SO-918



FRONT VIEW

12 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

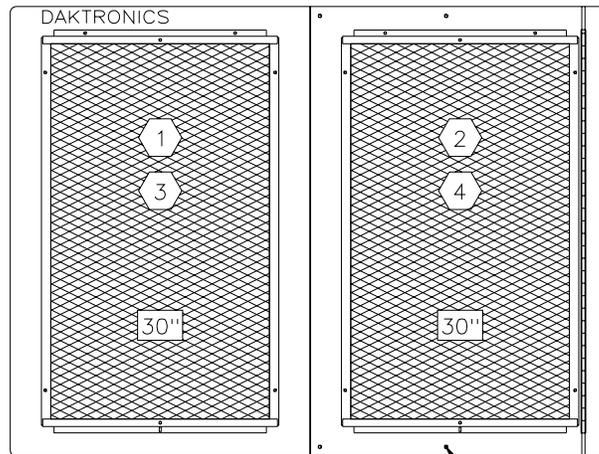
18" = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE: COMPONENT LOCATIONS, SO-918			
DES. BY: BPETERSON	DRAWN BY: RNIELSEN	DATE: 17JAN00	
REVISION	APPR. BY:	1091-E10A-126433	
	SCALE: 1=25		

REV.	DATE	DESCRIPTION	BY	APPR.
1	19JUL00	ADDED OPTIONAL HORN	GDB	

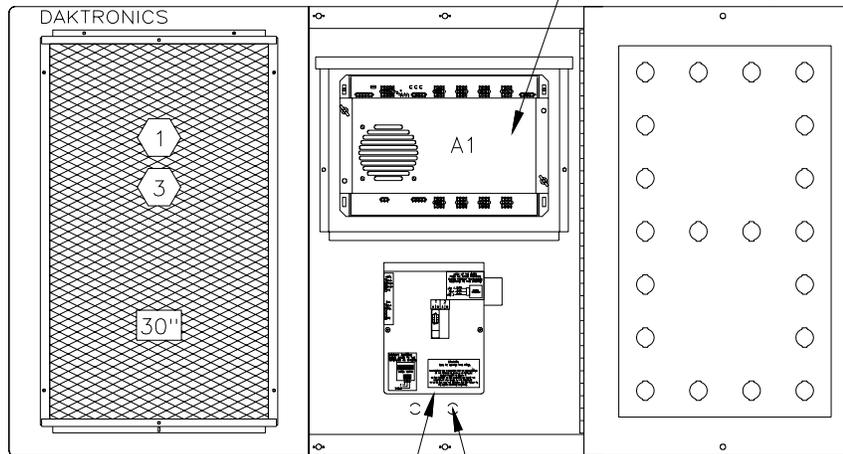
TI-2003



FRONT VIEW

REMOVE SCREWS TO ACCESS LAMP DRIVER & ENTRANCE

ENCLOSED 8 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)



FRONT VIEW

ACCESS DOOR OPEN

POWER & SIGNAL ENTRANCE

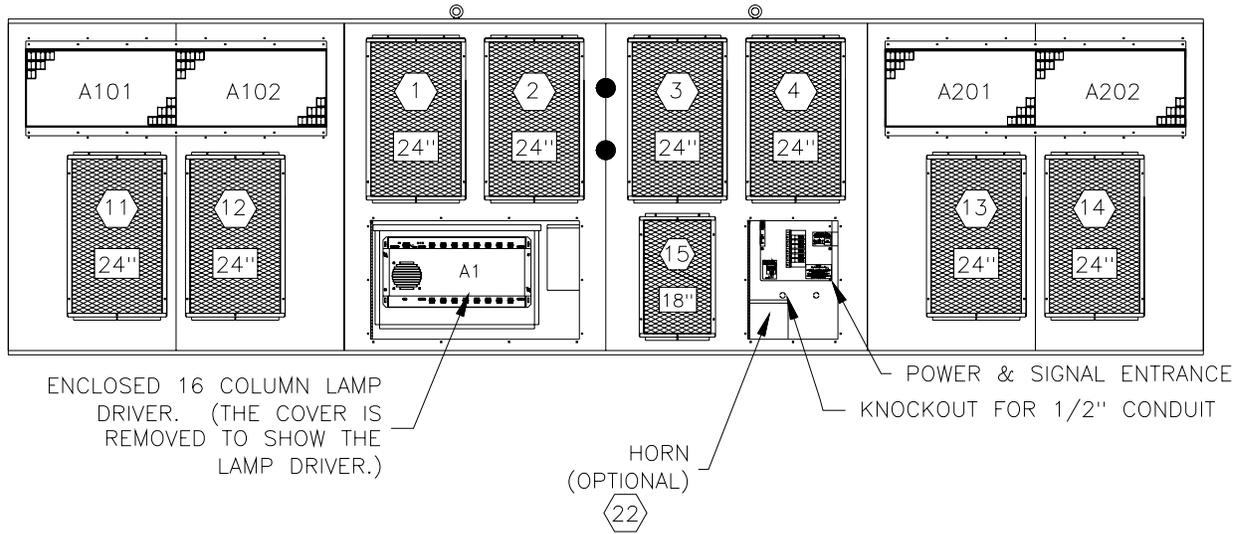
KNOCKOUT FOR 1/2" CONDUIT

1 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

30" = DIGIT SIZE

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS				
TITLE: COMPONENT LOCATIONS, TI-2003				
01	13JUN00	ADDED HARNESS ADDRESSES (3) & (4).	JNILSE	
DES. BY:	BPETERSON	DRAWN BY:	RNIELSEN	DATE: 17JAN00
REVISION	APPR. BY:			1091-E10A-126434
	SCALE: 1=15			
REV.	DATE	DESCRIPTION	BY	APPR.

MS-2002 W/832-12 TNMC



FRONT VIEW
(SHOWN WITH DOORS OPEN)

① = LAMP DRIVER CONNECTOR
WIRED TO THAT DIGIT.

24" = DIGIT SIZE

HINGED ACCESS DOORS REMOVED
TO SHOW LAMP DRIVER AND
POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

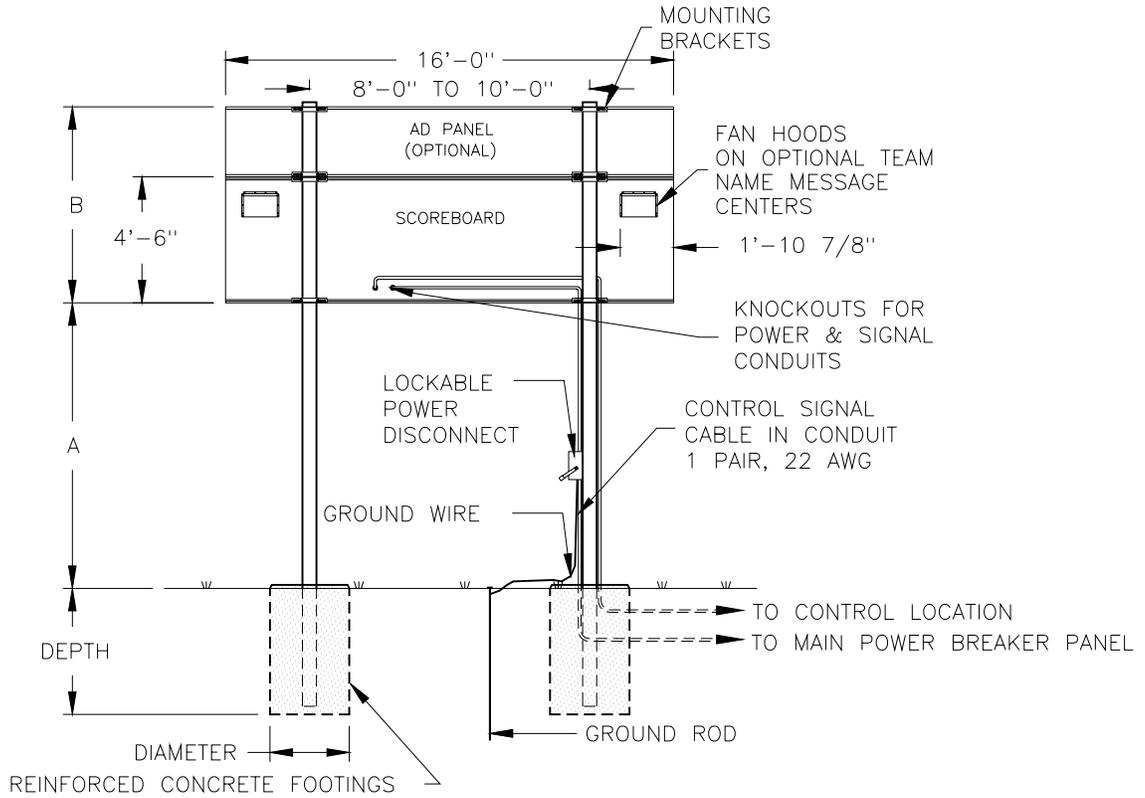
TITLE: COMPONENT LOCATIONS, MS-2002 W/ TNMC

DES. BY: BPETERSON DRAWN BY: MVANDYK DATE: 31JAN00

REV.	DATE	DESCRIPTION	BY	APPR.
1	25JUL00	MOVED HORN ENCLOSURE	GDB	

REVISION	APPR. BY:
	SCALE: 1=30

1091-E10A-127193



REAR VIEW

MS-2002

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 4 to 8 inches in this chart.

MODEL MS-2002						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10 FT	NONE	4'-6"	BEAM	W6x15	W5x19	W8x24
			FOOTING	3.0'x4.3'	3.0'x4.7'	3.0'x5.6'
	2 FT	6'-6"	BEAM	W6x20	W8x24	W8x31
			FOOTING	3.0'x5.0'	3.0'x5.5'	3.0'x6.4'
	4 FT	8'-6"	BEAM	W8x28	W8x31	W8x35
			FOOTING	3.0'x5.5'	3.0'x6.1'	3.0'x7.2'
12 FT	NONE	4'-6"	BEAM	W5x19	W8x24	W8x28
			FOOTING	3.0'x4.5'	3.0'x5.0'	3.0'x5.9'
	2 FT	6'-6"	BEAM	W8x24	W8x28	W10x33
			FOOTING	3.0'x5.2'	3.0'x5.7'	3.0'x6.8'
	4 FT	8'-6"	BEAM	W8x31	W10x33	W8x40
			FOOTING	3.0'x5.8'	3.0'x6.4'	3.0'x7.5'
14 FT	NONE	4'-6"	BEAM	W8x24	W8x24	W8x31
			FOOTING	3.0'x4.8'	3.0'x5.2'	3.0'x6.2'
	2 FT	6'-6"	BEAM	W8x28	W8x31	W10x39
			FOOTING	3.0'x5.4'	3.0'x6.0'	3.0'x7.0'
	4 FT	8'-6"	BEAM	W10x33	W10x39	W8x48
			FOOTING	3.0'x6.1'	3.0'x6.7'	3.0'x7.9'

FOOTING = DIAMETER X DEPTH

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

TITLE: INSTALLATION SPECIFICATIONS, MS-2002

DES. BY: BPETERSON

DRAWN BY: MVANDYK

DATE: 31JAN00

REVISION

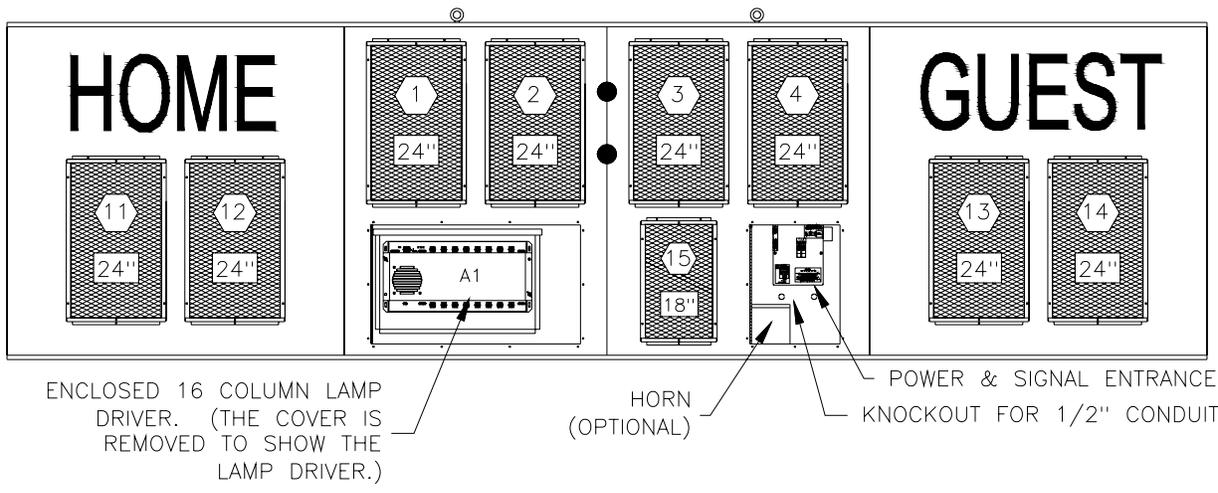
APPR. BY:

SCALE: 1=80

1091-R10A-127195

REV.	DATE	DESCRIPTION	BY	APPR.
1	20DEC00	REVISED COLUMN SECTIONS & FOOTINGS	MVD	

MS-2002



FRONT VIEW

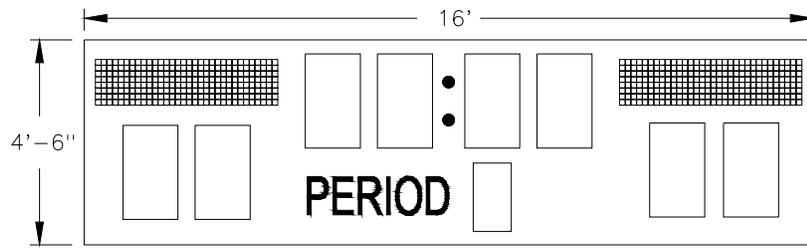
1 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

24" = DIGIT SIZE

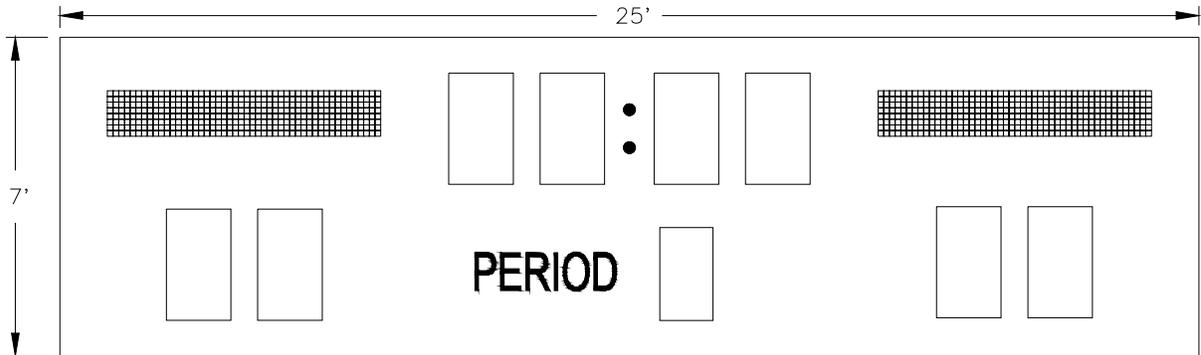
HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

REV.	DATE	DESCRIPTION	BY	APPR.
03	03MAR02	REMOVED THE 22 SEGMENT FROM THE HORN	MCOPL	
2	05OCT00	MOVED ENTRANCE ENCLOSURE 1.75 TO LEFT	GDB	
01	17JUL00	MOVED HORN ENCLOSURE.	JAS	

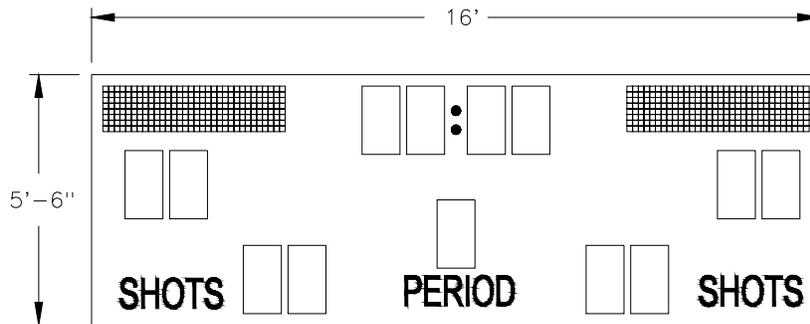
DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: COMPONENT LOCATIONS, MS-2002	
DES. BY: BPETERSON	DRAWN BY: BPETERS
DATE: 31JAN00	
REVISION	APPR. BY:
SCALE: 1=30	1091-E10A-127235



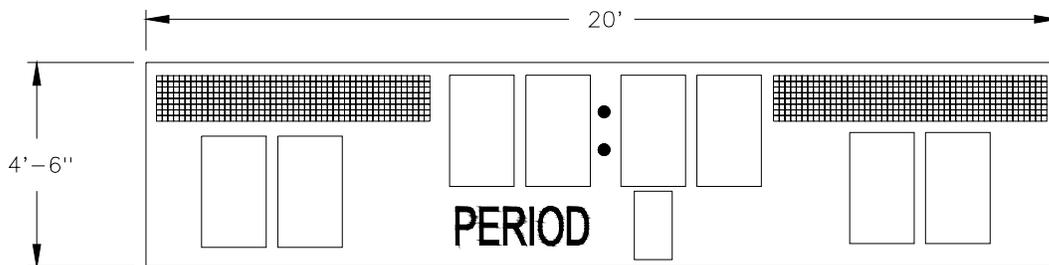
MS-2002 WITH 832-12 TNMC



MS-2006 WITH 848-12 TNMC



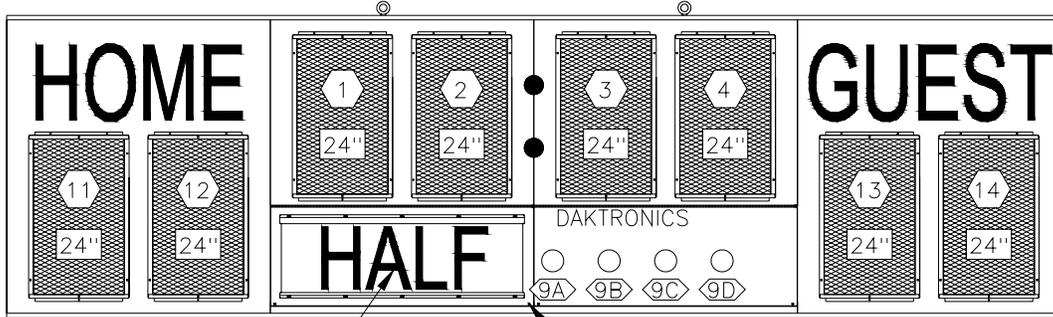
SO-2008 WITH 832-12 TNMC



MS-2011 W/848-12 TNMC

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS				
TITLE: SINGLE SECTION SCOREBOARD MODELS W/TNMC				
DES. BY: BPETERSON		DRAWN BY: BPETERSON		DATE: 02FEB00
REV.	DATE	DESCRIPTION	BY	APPR.
2	14JUN01	ADDED SO-2008 W/TNMC AND MS-2011 W/848-12 TNMC	DUSWH	
1	5JUN00	ADDED MS-2006 W/TNMC	GDB	
REVISION		APPR. BY:	1091-E10A-127262	
		SCALE: 1=50		

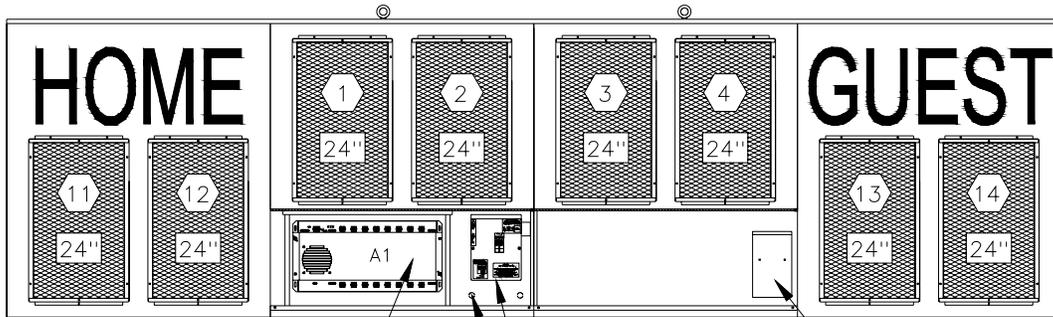
SO-824



REVERSIBLE "HALF" & "PERIOD" CAPTION PANEL

REMOVE SCREWS TO ACCESS LAMP DRIVER & ENTRANCE

FRONT VIEW



ENCLOSED 16 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

POWER & SIGNAL ENTRANCE

HORN (OPTIONAL)

KNOCKOUT FOR 1/2" CONDUIT

FRONT VIEW

① = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

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

24" = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

TITLE: COMPONENT LOCATIONS, SO-824

DES. BY: BPETERSON

DRAWN BY: BPETERSON

DATE: 02FEB00

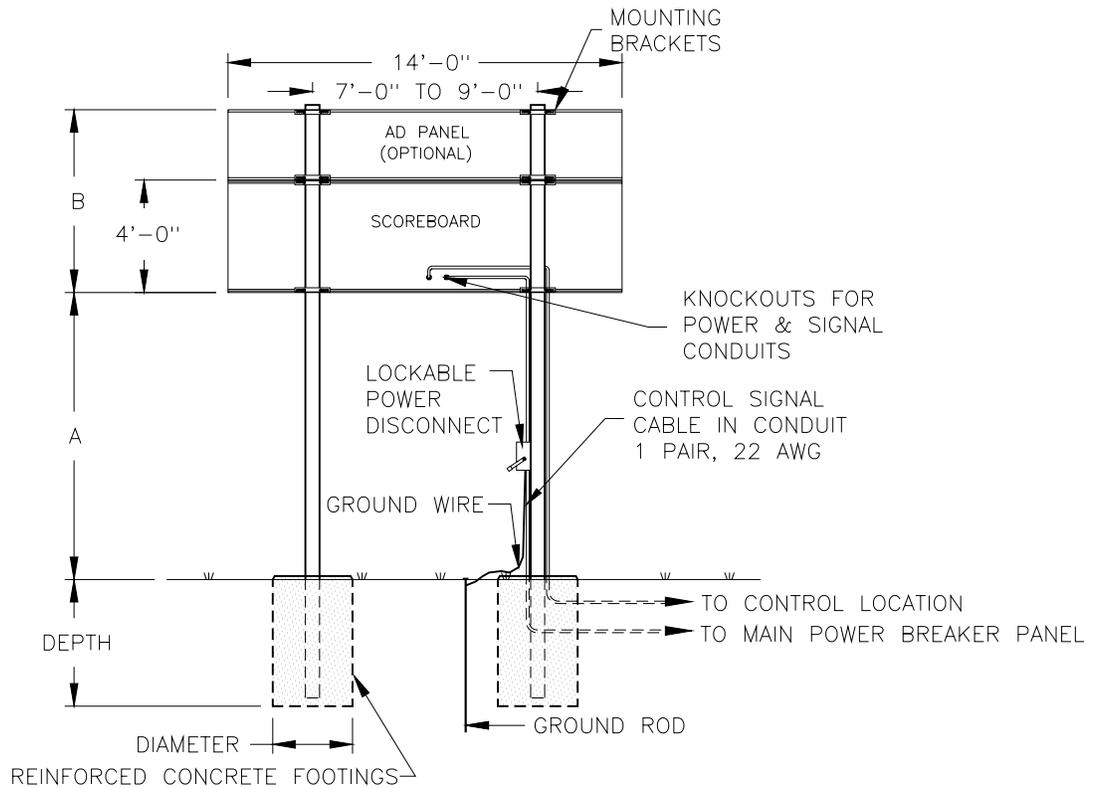
REVISION

APPR. BY:

SCALE: 1=30

1091-E10A-127285

REV.	DATE	DESCRIPTION	BY	APPR.



REAR VIEW

FB-824 & SO-824

ELECTRICAL

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

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

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

A NOTE ABOUT BEAM NOMENCLATURE:

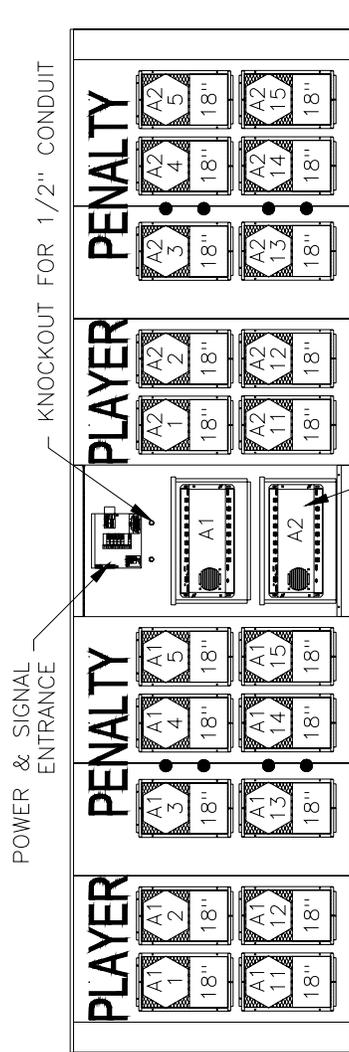
For a typical beam, W12x30 for example, "W" stands for "Wide-Flange Beam". The first number (12) is the approximate front to rear dimension of the beam in inches. The second number (30) is the weight per foot in pounds. This numbering is standard in the steel industry. Widths vary from 4 to 8 inches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

MODEL FB-824 & SO-824						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10 FT	NONE	4'-0"	BEAM	W6x15	W6x15	W5x19
			FOOTING	3.0'x3.9'	3.0'x4.3'	3.0'x5.1'
	2 FT	6'-0"	BEAM	W5x19	W6x20	W8x28
			FOOTING	3.0'x4.6'	3.0'x5.0'	3.0'x5.9'
	4 FT	8'-0"	BEAM	W8x24	W8x28	W8x31
			FOOTING	3.0'x5.2'	3.0'x5.7'	3.0'x6.7'
12 FT	NONE	4'-0"	BEAM	W5x16	W5x19	W8x24
			FOOTING	3.0'x4.1'	3.0'x4.5'	3.0'x5.3'
	2 FT	6'-0"	BEAM	W8x24	W8x24	W8x31
			FOOTING	3.0'x4.8'	3.0'x5.3'	3.0'x6.3'
	4 FT	8'-0"	BEAM	W8x28	W8x31	W10x39
			FOOTING	3.0'x5.4'	3.0'x5.9'	3.0'x7.0'
14 FT	NONE	4'-0"	BEAM	W5x19	W8x24	W8x28
			FOOTING	3.0'x4.4'	3.0'x4.8'	3.0'x5.7'
	2 FT	6'-0"	BEAM	W8x24	W8x28	W8x35
			FOOTING	3.0'x5.0'	3.0'x5.5'	3.0'x6.5'
	4 FT	8'-0"	BEAM	W8x31	W8x35	W12x45
			FOOTING	3.0'x5.7'	3.0'x6.2'	3.0'x7.3'

FOOTING = DIAMETER X DEPTH

1					20DEC00					REVISED COLUMN SECTIONS & FOOTINGS					MVD									
REV.					DATE					DESCRIPTION					BY					APPR.				
DAKTRONICS, INC. BROOKINGS, SD 57006																								
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS																								
TITLE: INSTALLATION SPECIFICATIONS, FB-824 & SO-824																								
DES. BY: BPETERSON					DRAWN BY: BPETERSON					DATE: 02FEB00														
REVISION					APPR. BY:					SCALE: 1=80					1091-R10A-127287									

MS-2004



ENCLOSED 16 COLUMN LAMP DRIVER
(THE COVER IS REMOVED TO SHOW
THE LAMP DRIVER)

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

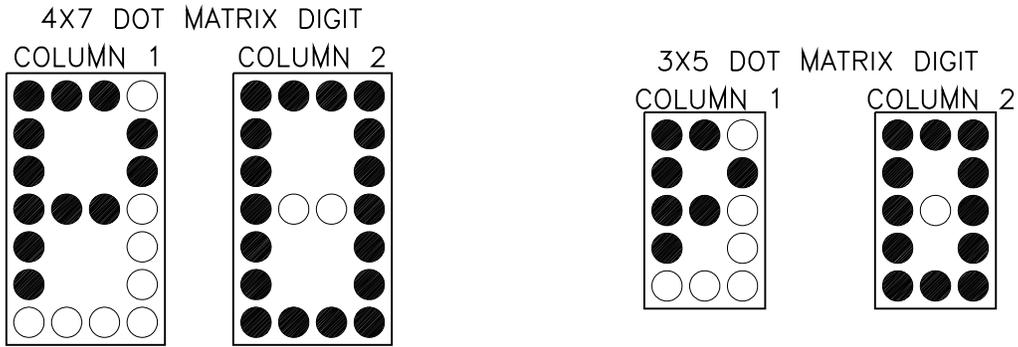
 = DIGIT SIZE

HINGED ACCESS DOORS REMOVED
TO SHOW LAMP DRIVER AND
POWER AND SIGNAL ENTRANCE.

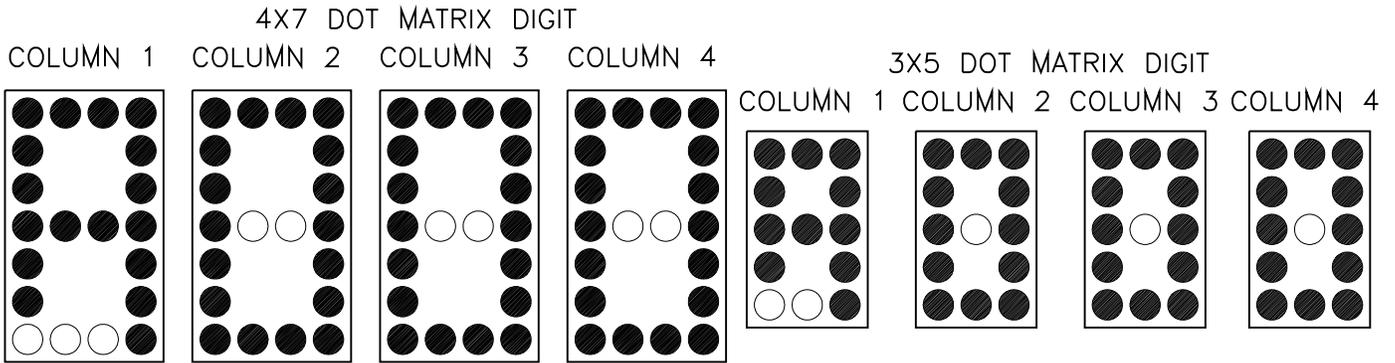
REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: COMPONENT LOCATIONS, MS-2004	
DES. BY: BPETERSON	DRAWN BY: MVANDYK
DATE: 2MAR00	
REVISION	APPR. BY:
SCALE: 1=40	1091-E10A-128047

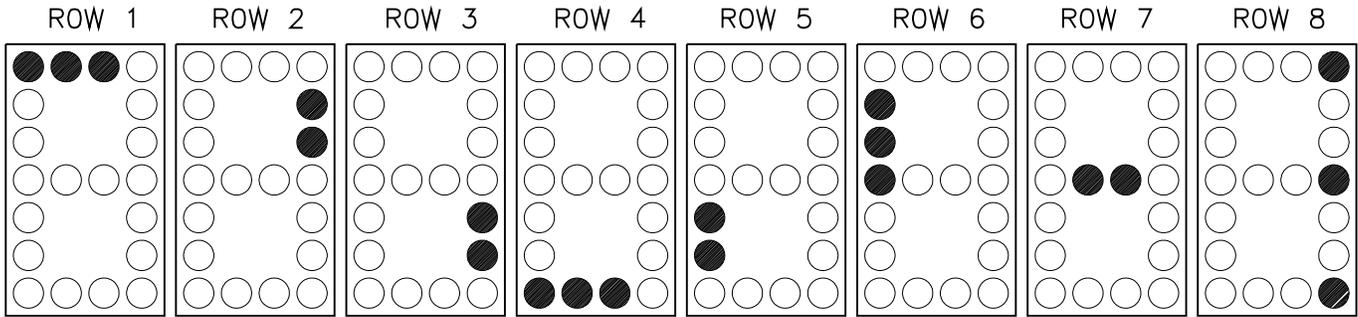
1ST CYCLE OF SELF TEST PATTERN SHOWN WITH NO PROTOCOL PINS SET ON J26



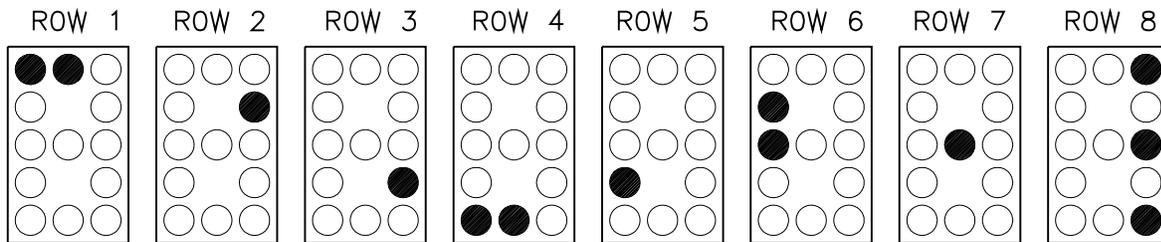
2ND CYCLE OF SELF TEST PATTERN SHOWN WITH NO ADDRESS PINS SET ON J25



3RD CYCLE OF SELF TEST PATTERN ON 4X7 DIGITS STARTING WITH ROW1 GOING TO ROW 8



3RD CYCLE OF SELF TEST PATTERN ON 3X5 DIGITS STARTING WITH ROW1 GOING TO ROW 8



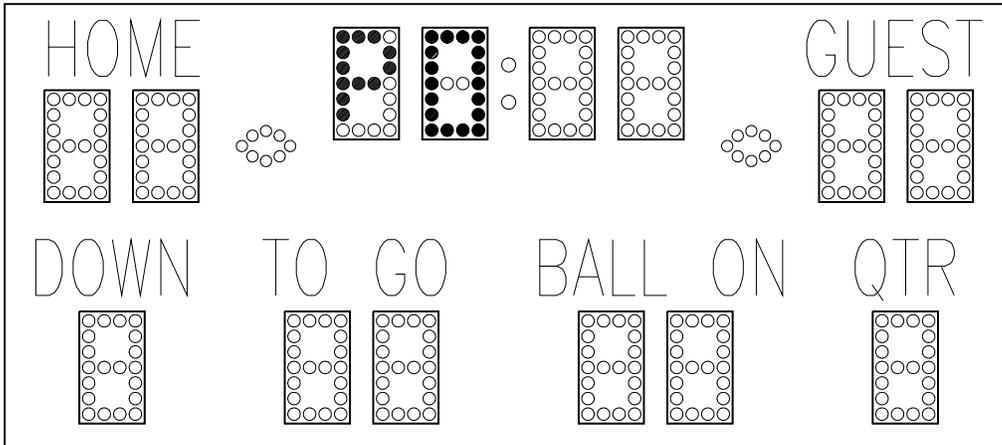
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: _____
 TITLE: INCANDESCENT DRIVER POWER UP SELF TEST
 DES. BY: _____ DRAWN BY: E BRAVEK DATE: 23 FEB 00

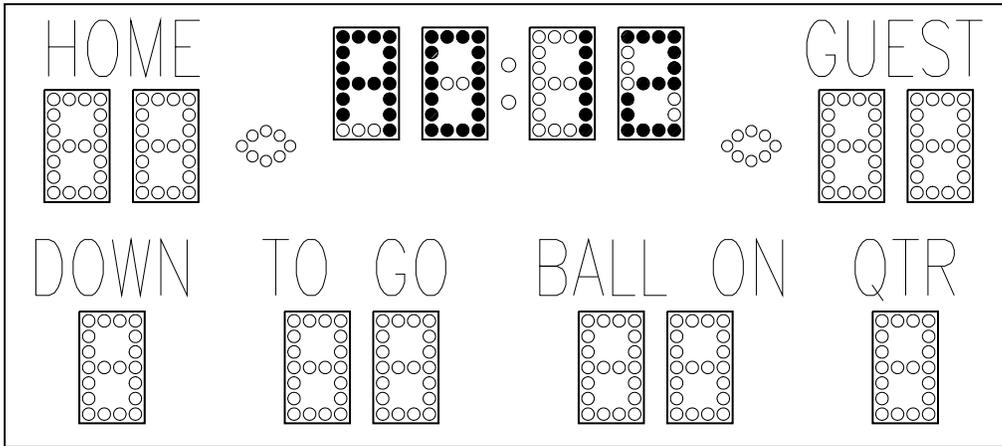
REVISION APPR. BY: _____
 SCALE: NONE 1033-E07A-128283

REV.	DATE	DESCRIPTION	BY	APPR.

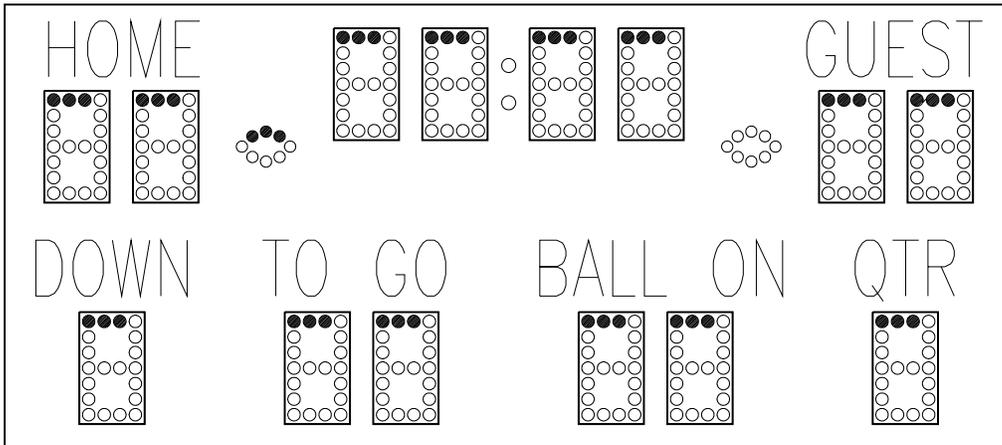
1ST CYCLE OF THE SELF TEST PATTERN WITH THE NO PROTOCOL PINS SET FOR A FB-1424



2ND CYCLE OF THE SELF TEST PATTERN WITH THE ADDRESS PINS SET FOR A FB-1424



3RD CYCLE OF THE SELF TEST PATTERN WITH THE ROW1 TEST ON ONLY



**** NOTE ****

THIS DRAWING SHOWS A SAMPLE OF A SELF TEST PATTERN ON ONE SCOREBOARD MODEL. EACH SCOREBOARDS SELF TEST PATTERN WILL VARY DEPENDING UPON THE SCOREBOARD MODEL, NUMBER OF DRIVERS AND TYPE OF DIGITS.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:

TITLE: POWER UP SELF TEST ON A FB-1424

DES. BY:

DRAWN BY: E BRAVEK

DATE: 23 FEB 00

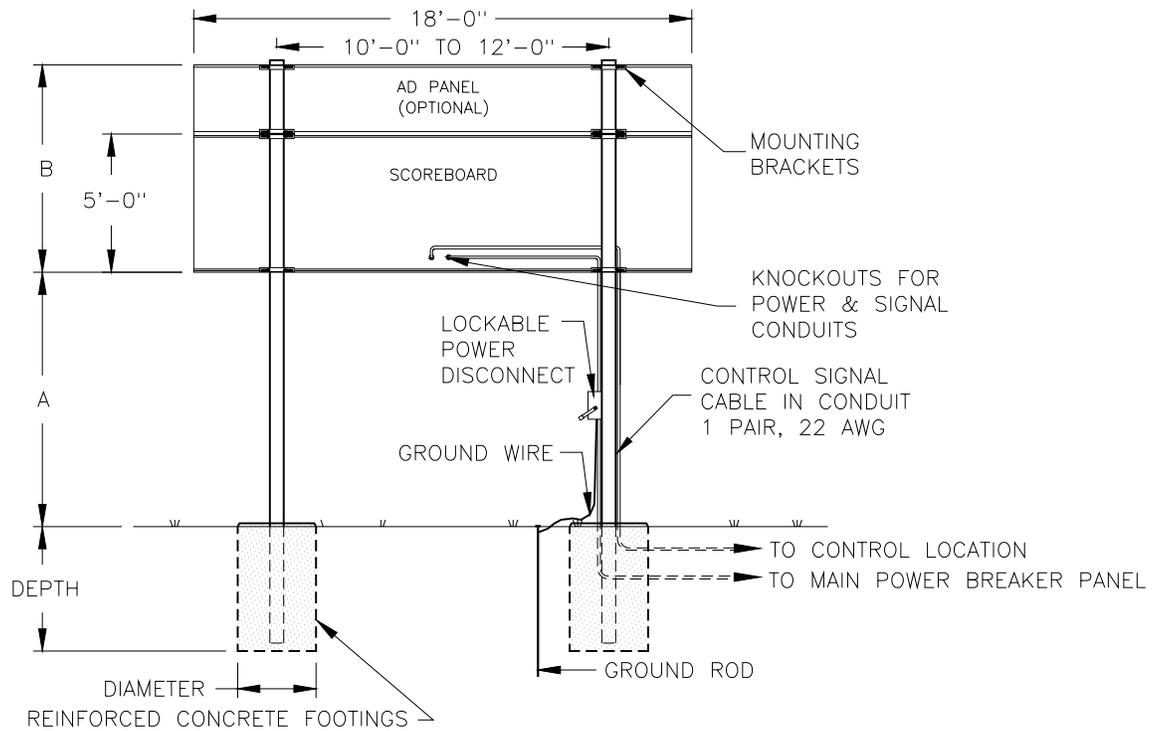
REVISION

APPR. BY:

SCALE: NONE

1033-E07A-128301

REV.	DATE	DESCRIPTION	BY	APPR.



REAR VIEW
MS-2004

ELECTRICAL

POWER CABLE MUST HAVE A SEPARATE 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 4 to 8 inches in this chart.

MODEL MS-2004						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10 FT	NONE	5'-0"	BEAM	W6x16	W6x20	W8x24
			FOOTING	2'x5.4'	2'x6.6'	2'x7.8'
	2 FT	7'-0"	BEAM	W8x24	W8x28	W8x31
			FOOTING	2'x6.8'	2'x7.5'	2'x8.9'
	4 FT	9'-0"	BEAM	W8x28	W8x31	W10x30
			FOOTING	2'x7.6'	2'x8.4'	2'x10'
12 FT	NONE	5'-0"	BEAM	W6x20	W8x24	W8x31
			FOOTING	2'x6.2'	2'x6.8'	2'x8'
	2 FT	7'-0"	BEAM	W8x28	W8x31	W10x39
			FOOTING	2'x7.1'	2'x7.8'	2.2'x8.9'
	4 FT	9'-0"	BEAM	W8x31	W10x39	W10x45
			FOOTING	2'x8'	2.2'x8.5'	2.2'x10'
14 FT	NONE	5'-0"	BEAM	W8x24	W8x28	W8x31
			FOOTING	2'x6.5'	2'x7.2'	2'x8.4'
	2 FT	7'-0"	BEAM	W8x31	W8x35	W12x45
			FOOTING	2'x7.5'	2'x8.3'	2.2'x10.5'
	4 FT	9'-0"	BEAM	W10x39	W12x45	W12x50
			FOOTING	2.2'x8.1'	2'x9'	2.2'x10.8'

FOOTING = DIAMETER X DEPTH

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

TITLE: INSTALLATION SPECIFICATIONS, MS-2004

DES. BY: BPETERSON DRAWN BY: BPETERSON DATE: 02MAR00

REVISION

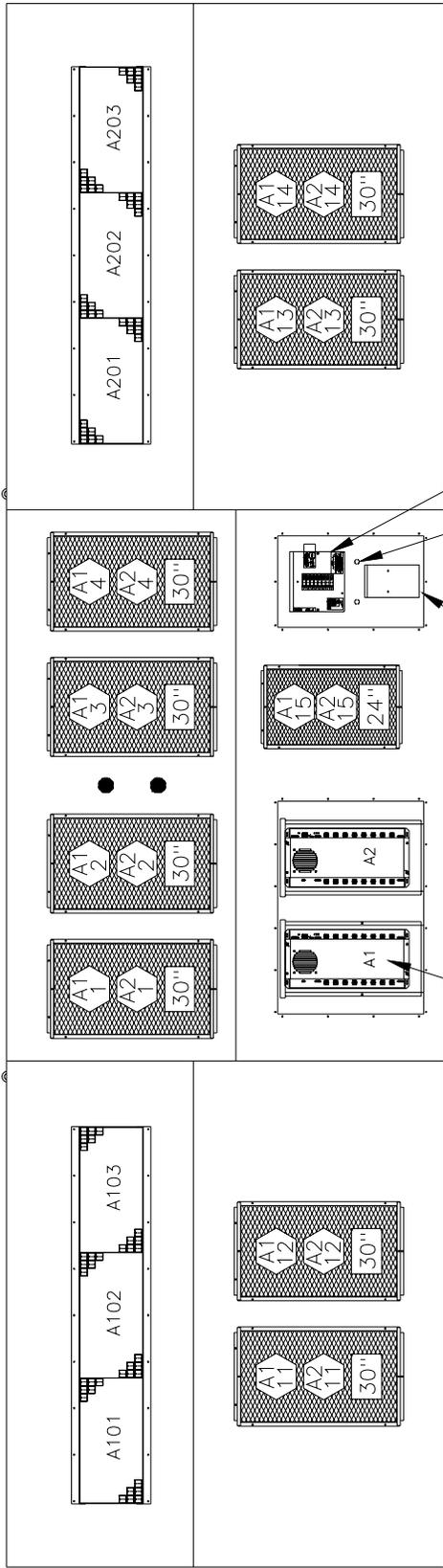
APPR. BY:

SCALE: 1=80

1091-R10A-128788

REV.	DATE	DESCRIPTION	BY	APPR.
01	30JUN00	REVISED DESIGN WIND VELOCITY CHART	TJV	

MS-2006 W/848-12 TNMC



ENCLOSED 16 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

POWER & SIGNAL ENTRANCE
KNOCKOUT FOR 1/2" CONDUIT

HORN
(OPTIONAL)

FRONT VIEW

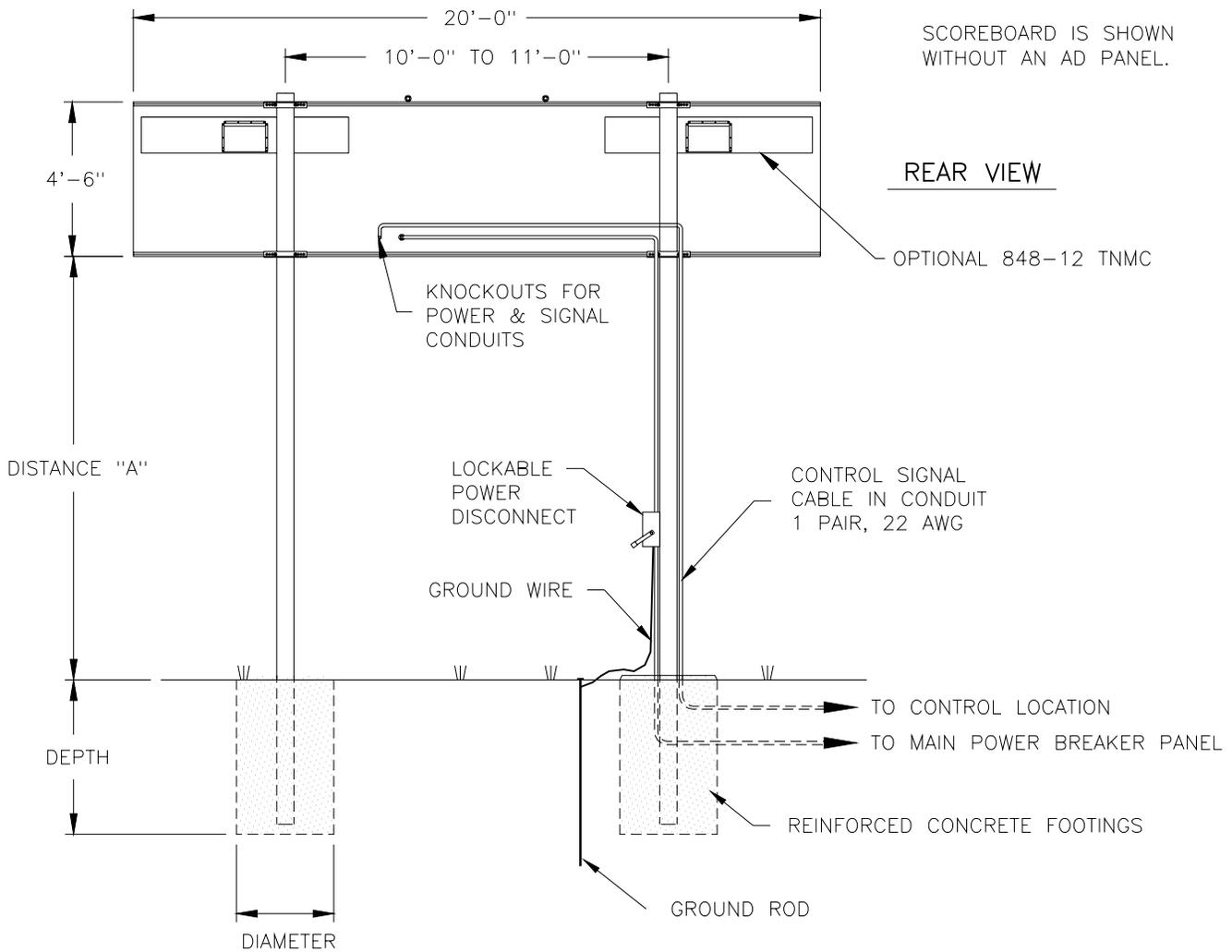
HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

30" = DIGIT SIZE

A1 13 = LAMP DRIVER NUMBER & LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: COMPONENT LOCATIONS, MS-2006 W/TNMC	
DES. BY: GBREEN	DRAWN BY: GBREEN
DATE: 5JUN00	
REVISION	APPR. BY:
SCALE: 1=35	1091-E10A-132960



SCOREBOARD IS SHOWN WITHOUT AN AD PANEL.

REAR VIEW

OPTIONAL 848-12 TNMC

KNOCKOUTS FOR POWER & SIGNAL CONDUITS

LOCKABLE POWER DISCONNECT

CONTROL SIGNAL CABLE IN CONDUIT 1 PAIR, 22 AWG

GROUND WIRE

TO CONTROL LOCATION

TO MAIN POWER BREAKER PANEL

REINFORCED CONCRETE FOOTINGS

GROUND ROD

DISTANCE "A"

DEPTH

DIAMETER

MODEL MS-2011 WITHOUT AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	16'-0" x 6'-0"	BEAM FOOTING	W10X15 3.0' x 5.3'	W6X16 3.0' x 5.9'	W8X18 3.0' x 7.0'
12'-0"	16'-0" x 6'-0"	BEAM FOOTING	W8X18 3.0' x 5.8'	W8X18 3.0' x 6.4'	W10X22 3.0' x 7.6'
14'-0"	16'-0" x 6'-0"	BEAM FOOTING	W8X18 3.0' x 5.9'	W8X21 3.0' x 6.5'	W16X26 3.0' x 7.7'

MODEL MS-2011 WITH 30"-HIGH AD PANEL					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	16'-0" x 8'-6"	BEAM FOOTING	W8X18 3.0' x 6.4'	W8X21 3.0' x 7.1'	W12X26 3.0' x 8.4'
12'-0"	16'-0" x 8'-6"	BEAM FOOTING	W8X21 3.0' x 6.7'	W8X24 3.0' x 7.4'	W12X26 3.0' x 8.7'
14'-0"	16'-0" x 8'-6"	BEAM FOOTING	W8X24 3.0' x 7.0'	W12X26 3.0' x 7.7'	W10X33 3.0' x 9.1'

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT² (UBC SOIL CLASS 3)

DESIGN WIND VELOCITY BASED ON UBC CODE (1997)

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

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

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR SCOREBOARDS

TITLE: INSTALLATION SPECIFICATIONS; MS-2011 W/ TNMC

DES. BY: MCOPLAN

DRAWN BY: MCOPLAN

DATE: 14JUN01

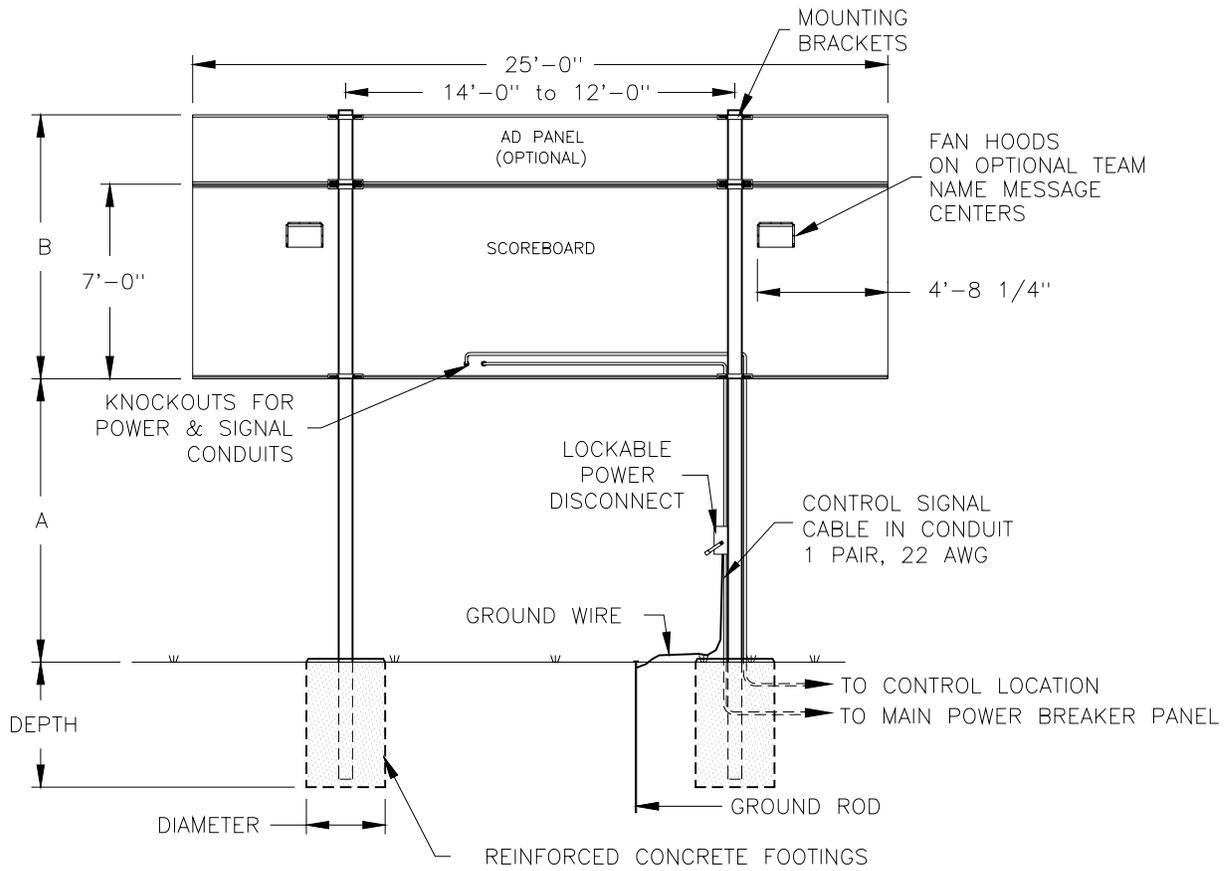
REVISION

APPR. BY:

SCALE: 1=60

1091-R10A-135414

REV.	DATE	DESCRIPTION	BY	APPR.



REAR VIEW

MS-2006

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.

MODEL MS-2006						
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY		
				70 MPH	80 MPH	100 MPH
10 FT	NONE	7'-0"	BEAM	W8x28	W8x31	W10x39
			FOOTING	3'x6'	3'x6.6'	3'x7.8'
	2 FT	9'-0"	BEAM	W10x33	W10x39	W8x48
			FOOTING	3'x6.7'	3'x7.4'	3'x8.7'
4 FT	11'-0"	BEAM	W8x40	W8x48	W10x54	
		FOOTING	3'x7.3'	3'x8.1'	3'x9.6'	
12 FT	NONE	7'-0"	BEAM	W8x31	W8x35	W12x45
			FOOTING	3'x6.2'	3'x6.9'	3'x8.1'
	2 FT	9'-0"	BEAM	W10x39	W12x45	W12x53
			FOOTING	3'x7'	3'x7.7'	3'x9'
4 FT	11'-0"	BEAM	W10x45	W10x49	W12x65	
		FOOTING	3'x7.6'	3'x8.4'	3'x9.9'	
14 FT	NONE	7'-0"	BEAM	W8x35	W8x40	W8x48
			FOOTING	3'x6.5'	3'x7.2'	3'x8.5'
	2 FT	9'-0"	BEAM	W12x45	W8x48	W10x60
			FOOTING	3'x7.3'	3'x8'	3'x9.5'
4 FT	11'-0"	BEAM	W10x49	W12x58	W12x72	
		FOOTING	3'x7.9'	3'x8.7'	3'x10.3'	

FOOTING = DIAMETER X DEPTH

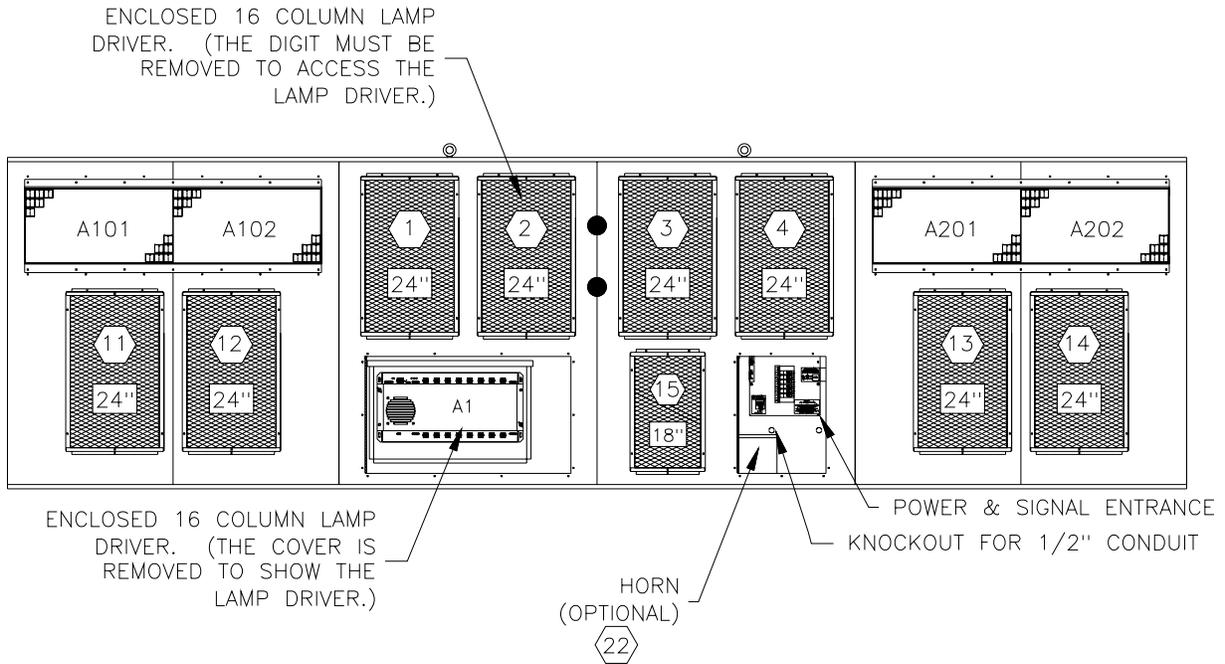
A NOTE ABOUT BEAM NOMENCLATURE:

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

REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE: INSTALLATION SPECIFICATIONS, MS-2006			
DES. BY: GBREEN		DRAWN BY: GBREEN	
		DATE: 21JUL00	
REVISION	APPR. BY:	1091-R10A-135575	
	SCALE: 1=80		

MS-2002 W/832-12 TNMC & 40 LAMPS



FRONT VIEW
(SHOWN WITH DOORS OPEN)

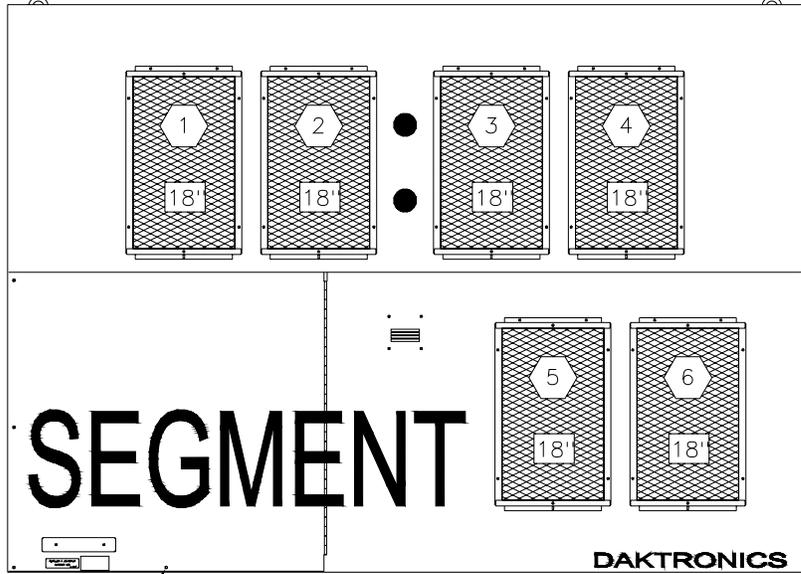
- (1) = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.
- (24") = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE: COMPONENT LOCATIONS, MS-2002 W/ TNMC & 40W LMPMS			
DES. BY: GBREEN		DRAWN BY: GBREEN	
		DATE: 25JUL00	
REVISION	APPR. BY:	1091-E10A-135738	
	SCALE: 1=30		

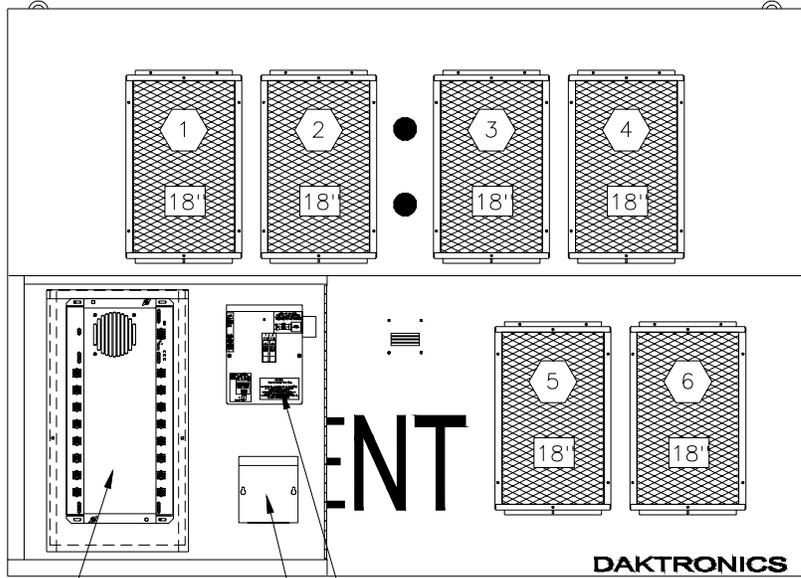
REV.	DATE	DESCRIPTION	BY	APPR.

FB-2340



REMOVE SCREWS TO ACCESS
LAMP DRIVER & ENTRANCE

FRONT VIEW



ENCLOSED 16 COLUMN LAMP
DRIVER. (THE COVER IS
REMOVED TO SHOW THE
LAMP DRIVER.)

POWER & SIGNAL
ENTRANCE

HORN ENCLOSURE

22

FRONT VIEW

ACCESS DOOR OPEN

1 = LAMP DRIVER CONNECTOR
WIRED TO THAT DIGIT.

18" = DIGIT SIZE

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS

TITLE: COMPONENT LOCATIONS, FB-2340

DES. BY: GBREEN

DRAWN BY: GBREEN

DATE: 24AUG00

REVISION

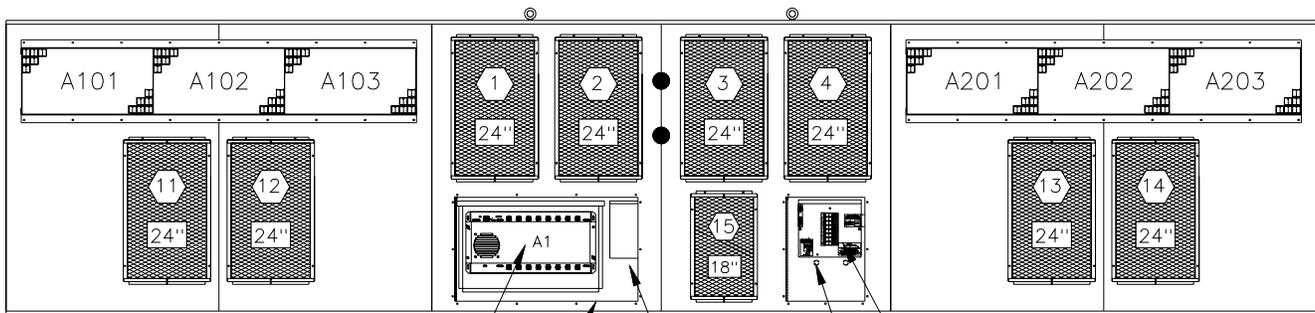
APPR. BY:

SCALE: 1=20

1091-E10A-137679

01	08NOV00	REPLACED PERIOD CAPTION WITH SEGMENT CAPTION.	JNILSE	
REV.	DATE	DESCRIPTION	BY	APPR.

MS-2011 W/848-12 TNMC



ENCLOSED 16 COLUMN LAMP DRIVER. (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER.)

POWER & SIGNAL ENTRANCE
KNOCKOUT FOR 1/2" CONDUIT

NOTE THAT THE "PERIOD" CAPTION AND THE ACCESS DOOR HAVE BEEN REMOVED TO SHOW DRIVER DETAIL.

HORN (OPTIONAL)

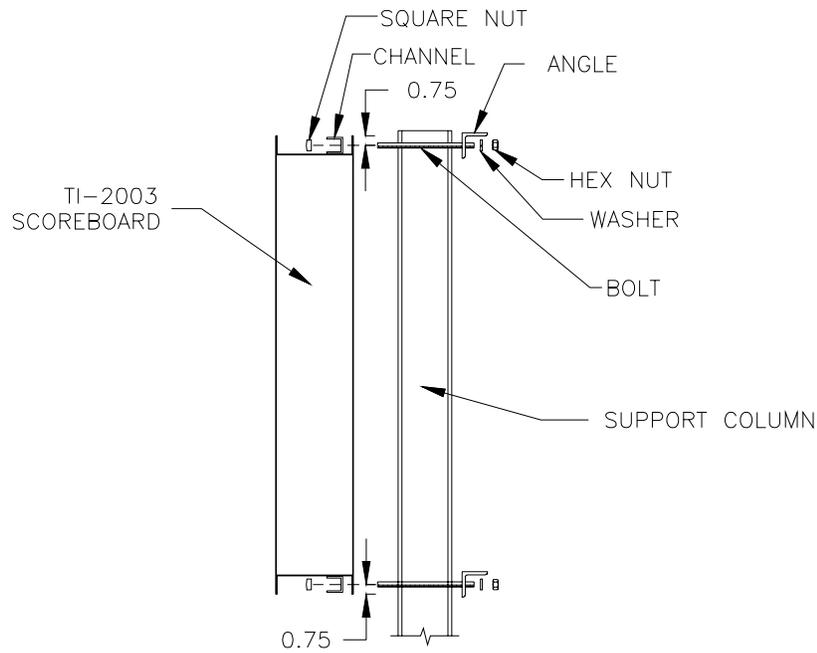
FRONT VIEW
(SHOWN WITH DOORS OPEN)

1 = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.

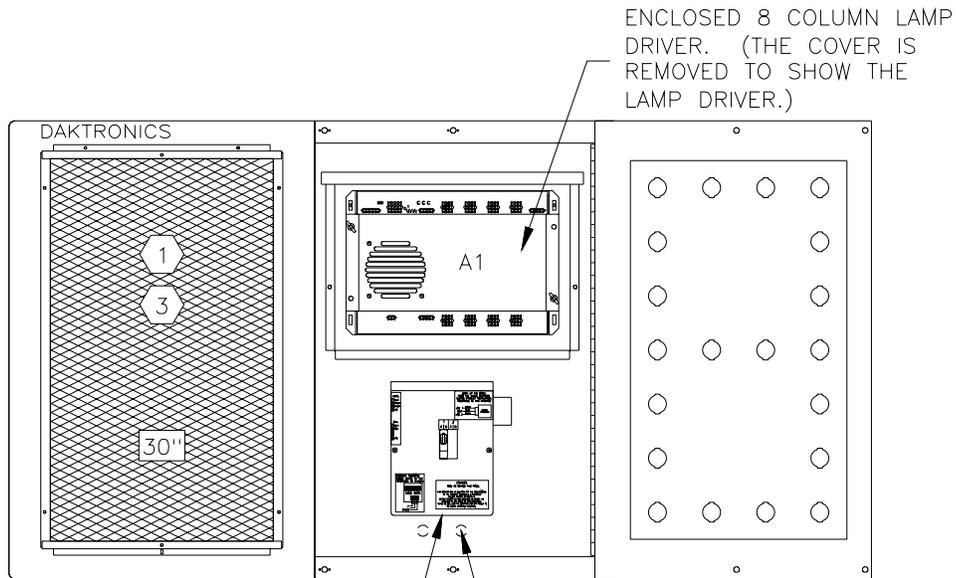
24" = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS				
TITLE: COMPONENT LOCATIONS; MS-2011 W/ 848-12 TNMC				
DES. BY: MCOPLAN		DRAWN BY: MCOPLAN		DATE: 14JUN01
REVISION	APPR. BY:	1091-E07A-138889		
	SCALE: 1=35			
REV.	DATE	DESCRIPTION	BY	APPR.



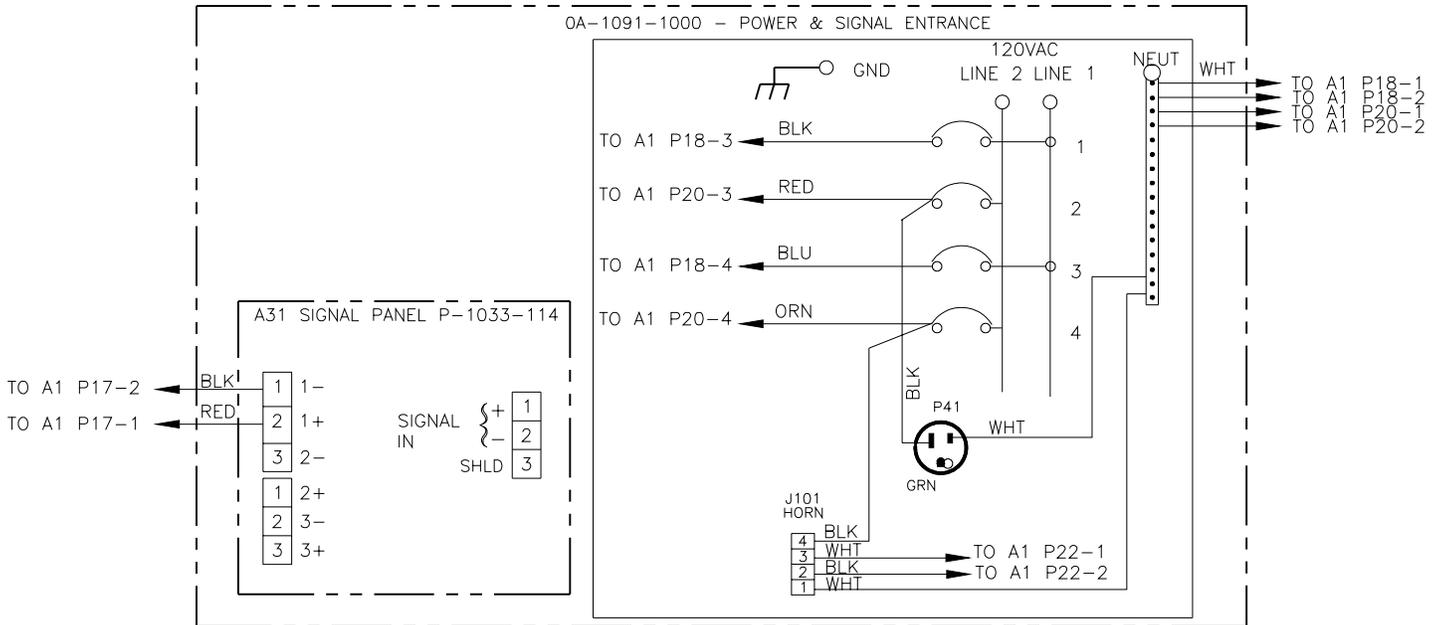
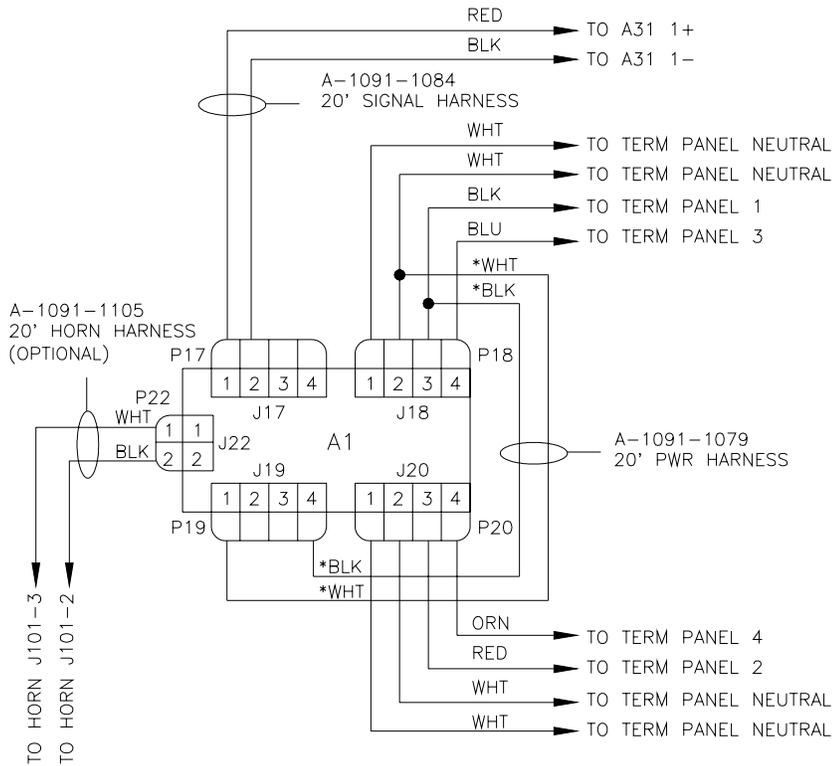
SCOREBOARD MOUNTING



FRONT VIEW
ACCESS DOOR OPEN

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR SCOREBOARDS	
TITLE: INSTALLATION; TI-2003	
DES. BY: TWEBER	DATE: 02OCT00
DRAWN BY: JNILSEN	
REVISION	APPR. BY:
	SCALE: 1 = 15
1091-E10A-139316	

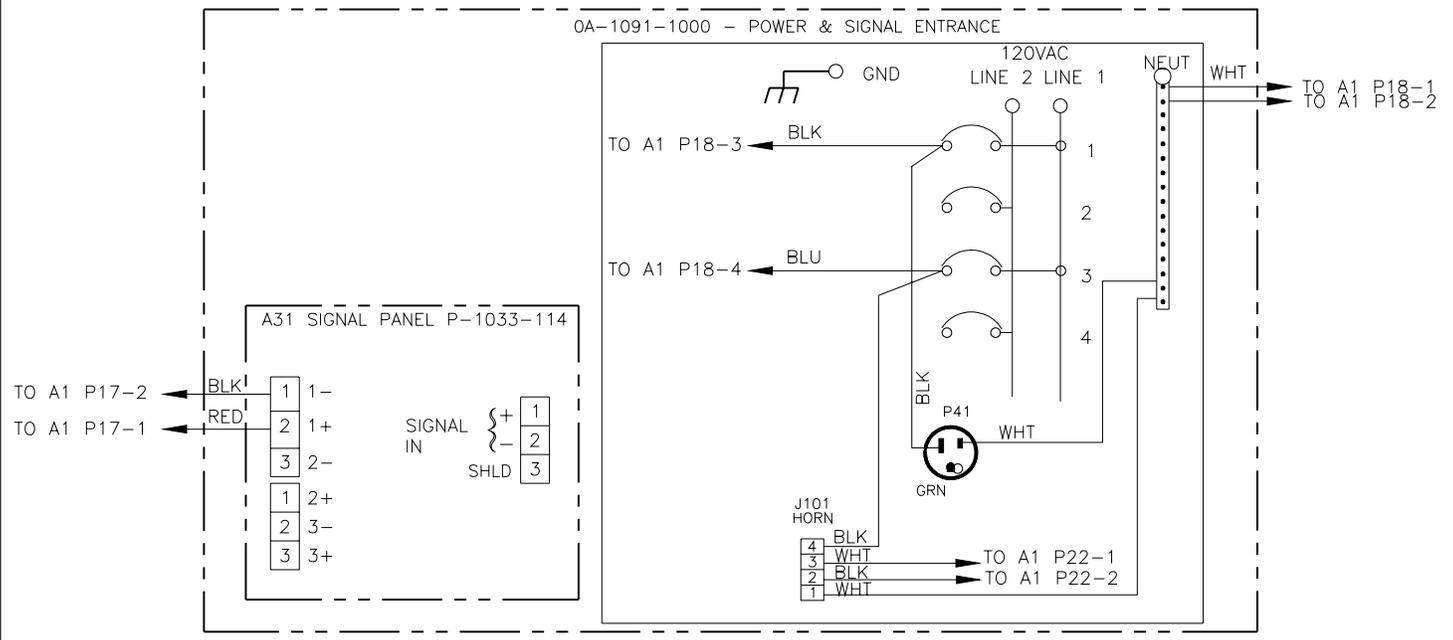
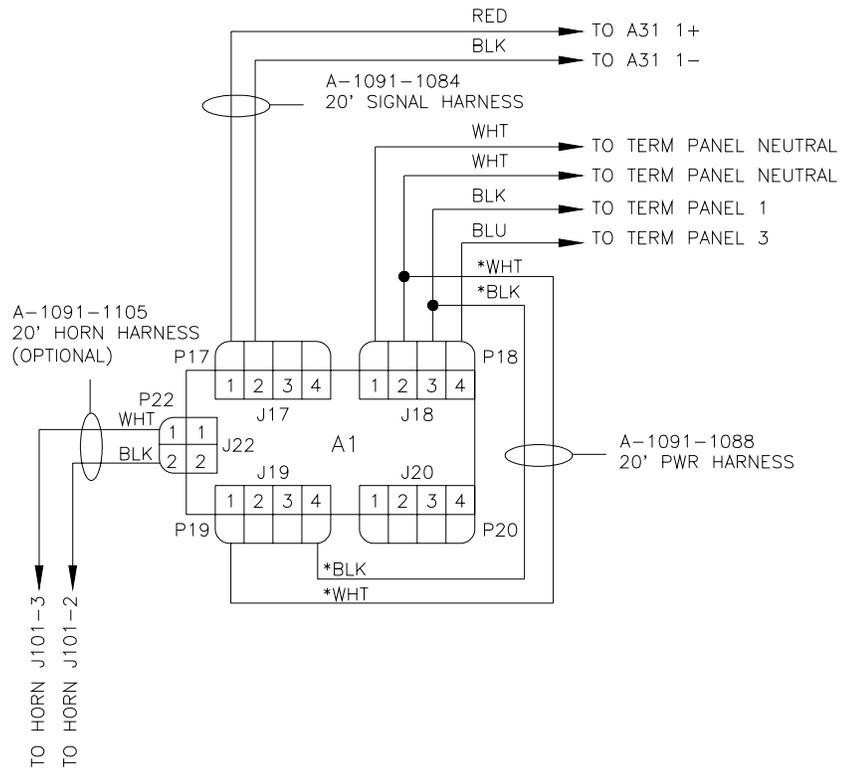
REV.	DATE	DESCRIPTION	BY	APPR.



NOTE:
 ALL WIRE IS 12 AWG, EXCEPT * IS 14 AWG & SIGNAL PAIR IS 22 AWG.
 ALL BREAKERS ARE 10 AMP (S-1130).

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: SCHEMATIC; 1 DRIVER 240V	
DES. BY:	DATE: 9OCT00
REVISION	APPR. BY:
SCALE: 1=1	1091-R03A-139639

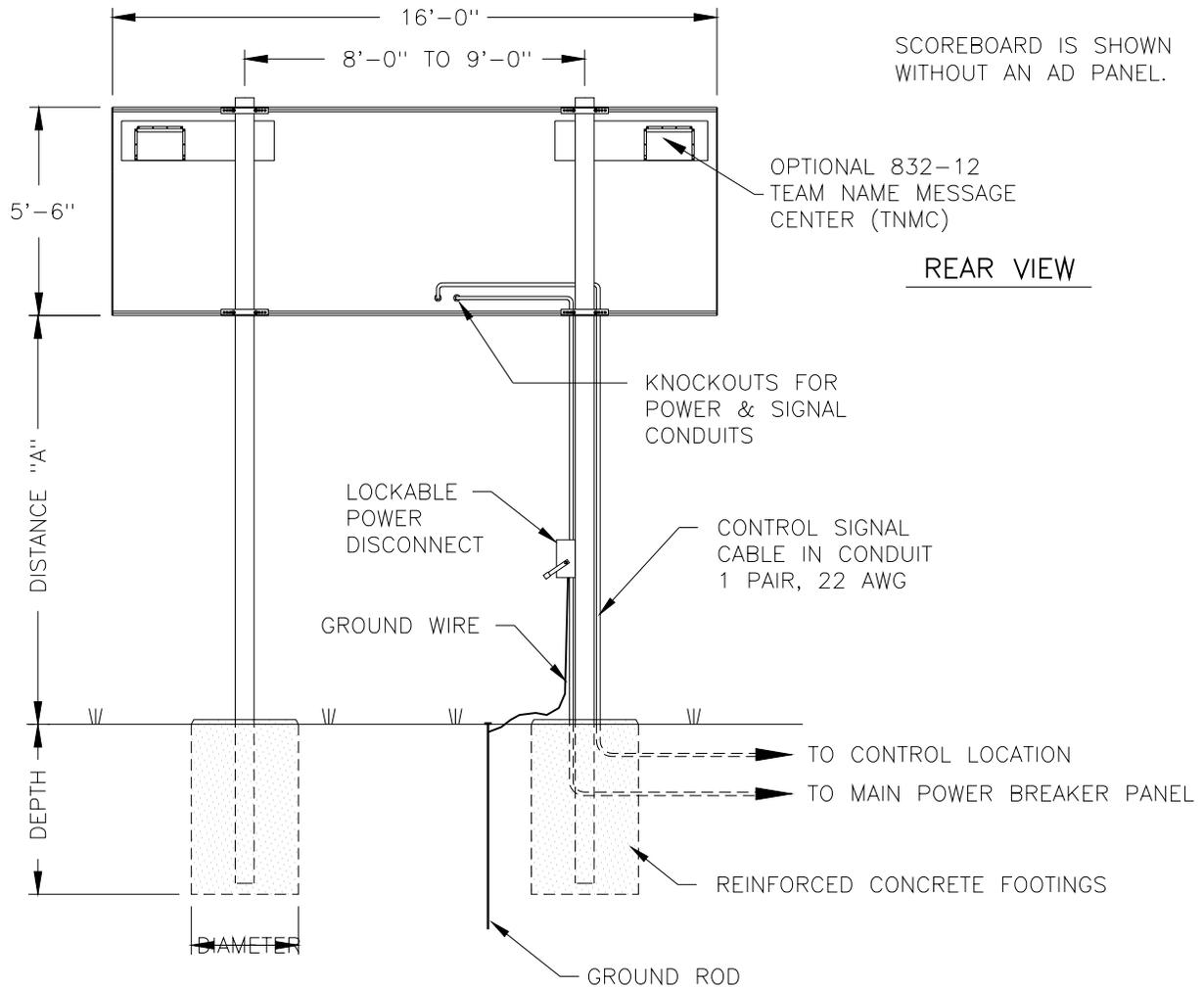
REV.	DATE	DESCRIPTION	BY	APPR.



NOTE:
 ALL WIRE IS 12 AWG, EXCEPT * IS 14 AWG & SIGNAL PAIR IS 22 AWG.
 ALL BREAKERS ARE 10 AMP (S-1130).

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: SCHEMATIC; 1 8 COLUMN DRIVER 240V	
DES. BY:	DATE: 10OCT00
DRAWN BY: RASMUS	
REVISION	APPR. BY:
	SCALE: 1=1
1091-R03A-139733	

REV.	DATE	DESCRIPTION	BY	APPR.



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

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

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT² AND UBC WIND CODE.

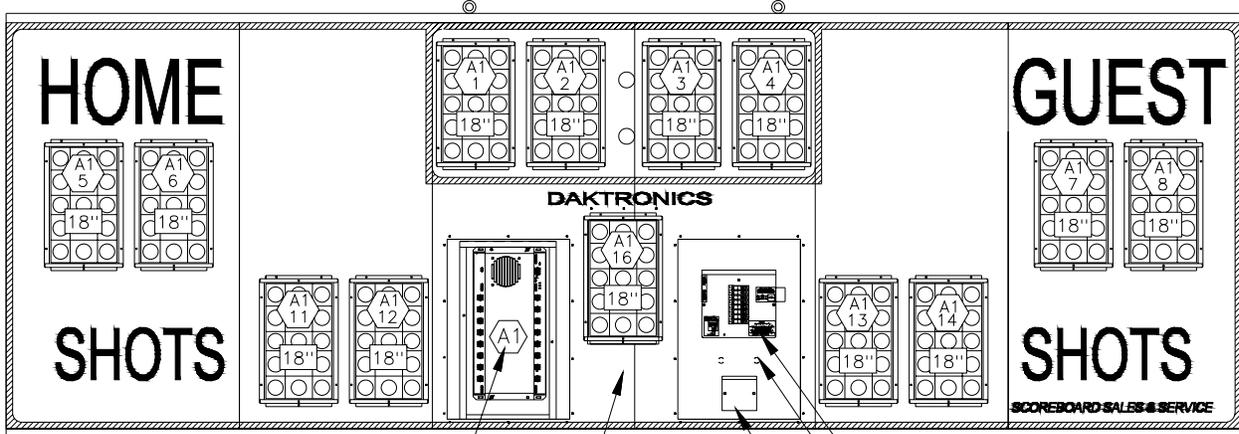
ACTUAL FOOTING DEPTH AND DIAMETER FOR A PARTICULAR INSTALLATION MUST BE DETERMINED BY A QUALIFIED STRUCTURAL ENGINEER, USING DATA FROM A SOIL SAMPLE TEST AT THE SITE.

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

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR SCOREBOARDS			
TITLE: INSTALLATION SPECIFICATIONS, SO-2008			
DES. BY: RNEYENS		DRAWN BY: DUSWH	
DATE: 5-17-01			
REVISION	APPR. BY:	1192-E07A-149074	
	SCALE: 1=60		

02	14JUN01	CHANGED 832-10 TNMC TO 832-12 TNMC	DUSWH	
01	06JUN01	ADDED TNMC CHANGED SPACING ON BEAMS FROM A MAX 10' TO A MAX 9' TO MAKE ROOM FOR TNMC	MCOP	
REV.	DATE	DESCRIPTION	BY	APPR.

SO-2008



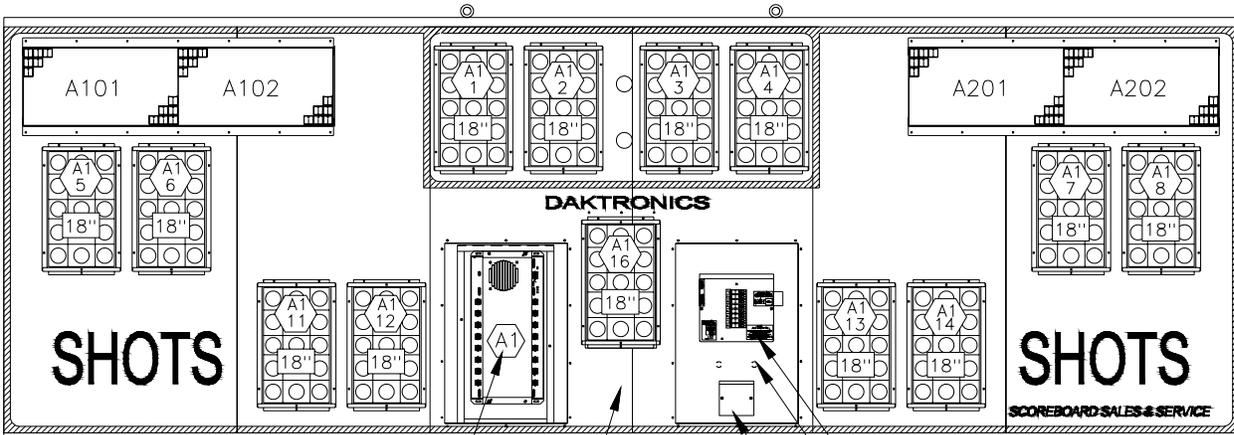
ENCLOSED 16 COLUMN LAMP DRIVER (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER)

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

POWER & SIGNAL ENTRANCE

KNOCKOUT FOR 1/2" CONDUIT HORN (OPTIONAL)

SO-2008 W/ 832-12 TNMC



ENCLOSED 16 COLUMN LAMP DRIVER (THE COVER IS REMOVED TO SHOW THE LAMP DRIVER)

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

POWER & SIGNAL ENTRANCE

KNOCKOUT FOR 1/2" CONDUIT HORN (OPTIONAL)



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



= DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

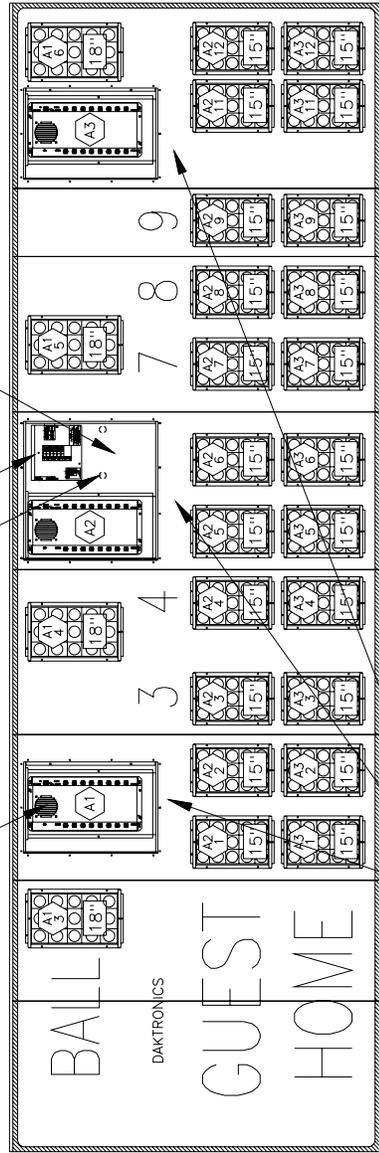
DAKTRONICS, INC. BROOKINGS, SD 57006

02	19FEB02	REMOVED THE "22" ATTRIBUTE FROM HORN	MCOPL	
01	01OCT01	ADDED SO-2008 W/O TNMC	MCOPL	
REV.	DATE	DESCRIPTION	BY	APPR.

PROJ: OUTDOOR INCANDESCENT SCOREBOARDS	
TITLE: COMPONENT LOCATIONS; SO-2008 W/ 832-12 TNMC	
DES. BY: MCOPLAN	DRAWN BY: MCOPLAN DATE: 07JUN01
REVISION	APPR. BY:
	SCALE: 1=30
1091-E07A-150127	

BA-2004

ENCLOSED 16 COLUMN LAMP DRIVER @3. (THE COVER HAS BEEN REMOVED TO SHOW THE LAMP DRIVER DETAIL).
 POWER & SIGNAL ENTRANCE
 KNOCKOUTS FOR 1/2" CONDUIT
 ACCESS DOORS @3 ARE SHOWN OPEN TO SHOW COMPONENT DETAIL.



NOTE: SOME CAPTIONS HAVE BEEN REMOVED TO SHOW DETAIL

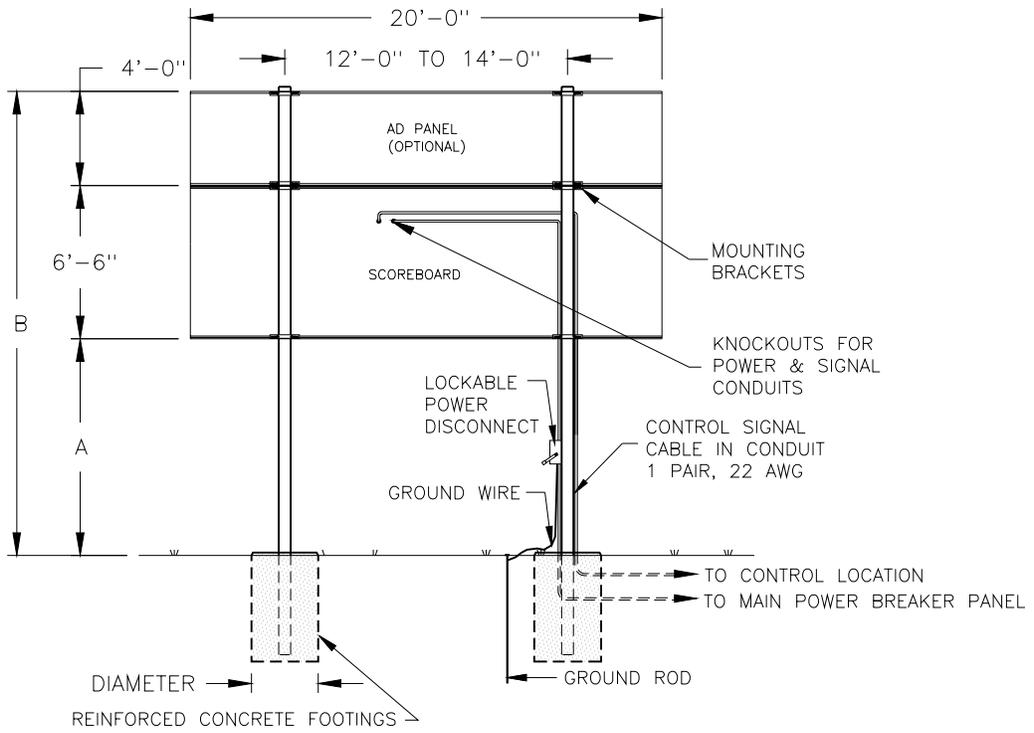
FRONT VIEW

- ⑤ = LAMP DRIVER CONNECTOR WIRED TO THAT DIGIT.
- ◁1C▷ = LAMP DRIVER CONNECTOR AND SEGMENT (PIN) NO. WIRED TO THAT INDICATOR
- 18" = DIGIT SIZE

HINGED ACCESS DOORS REMOVED TO SHOW LAMP DRIVER AND POWER AND SIGNAL ENTRANCE.

REV.	DATE	DESCRIPTION	BY	APPR.
01	24JULY01	REMOVED 6" FROM RIGHT END OF DISPLAY AND ADDED 6" TO LEFT END OF DISPLAY	MCOPL	

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS			
TITLE: COMPONENT LOCATIONS; BA-2004			
DES. BY: MCOPLAN	DRAWN BY: MCOPLAN	DATE: 20JULY01	
REVISION	APPR. BY:	1091-E07A-152733	
	SCALE: 1=40		



REAR VIEW

ELECTRICAL

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

BA-2004, BA-2005, & BA-2011							
VERTICAL DISTANCE (A)	AD PANEL HEIGHT	COMBINED HEIGHT (B)		DESIGN WIND VELOCITY			
				70 MPH	80 MPH	90 MPH	100 MPH
10 FT	NONE	16'-6"	BEAM	W8X18	W8X21	W10X22	W8X24
			FOOTING	2.5'x6.6'	2.5'x7.3'	2.5'x8.0'	2.5'x8.7'
	4 FT	20'-6"	BEAM	W12X26	W14X30	W10X33	W12X35
			FOOTING	2.5'x8.2'	2.5'x9.1'	2.5'x9.9'	2.5'x10.8'
12 FT	NONE	18'-6"	BEAM	W8X21	W10X22	W12X26	W12X26
			FOOTING	2.5'x7.0'	2.5'x7.7'	2.5'x8.4'	2.5'x9.1'
	4 FT	22'-6"	BEAM	W14X30	W10X33	W14X38	W12X40
			FOOTING	3.0'x8.0'	3.0'x8.8'	3.0'x9.6'	3.0'x10.4'
14 FT	NONE	20'-6"	BEAM	W10X22	W12X26	W12X26	W14X30
			FOOTING	3.0'x6.8'	3.0'x7.5'	3.0'x8.2'	3.0'x8.8'
	4 FT	24'-6"	BEAM	W10X33	W14X38	W12X40	W14X43
			FOOTING	3.0'x8.3'	3.0'x9.1'	3.0'x10.0'	3.0'x10.8'
16 FT	NONE	22'-6"	BEAM	W12X26	W14X30	W10X33	W12X35
			FOOTING	3.0'x7.1'	3.0'x7.8'	3.0'x8.5'	3.0'x9.2'
	4 FT	26'-6"	BEAM	W14X38	W12X46	W14X43	W14X48
			FOOTING	3.0'x8.6'	3.0'x9.5'	3.0'x10.4'	3.0'x11.2'
18 FT	NONE	24'-6"	BEAM	W14X30	W10X33	W12X35	W16X40
			FOOTING	3.0'x7.3'	3.0'x8.1'	3.0'x8.8'	3.0'x9.5'
	4 FT	28'-6"	BEAM	W12X40	W14X43	W14X48	W14X53
			FOOTING	3.0'x8.9'	3.0'x9.8'	3.0'x10.7'	3.0'x11.5'
20 FT	NONE	26'-6"	BEAM	W10X33	W12X35	W16X40	W12X40
			FOOTING	3.0'x7.6'	3.0'x8.4'	3.0'x9.1'	3.0'x9.9'
	4 FT	30'-6"	BEAM	W12X40	W12X48	W14X53	W14X61
			FOOTING	3.0'x9.2'	3.0'x10.1'	3.0'x11.0'	3.0'x11.9'

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

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

A NOTE ABOUT BEAM NOMENCLATURE:

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

FOOTING = DIAMETER X DEPTH

REV.	DATE	DESCRIPTION	BY	APPR.
02	15JAN03	ADDED BA-2011 IN TEXT	MCOPL	
01	08AUG01	ADDED BA-2005 IN TEXT	MCOPL	

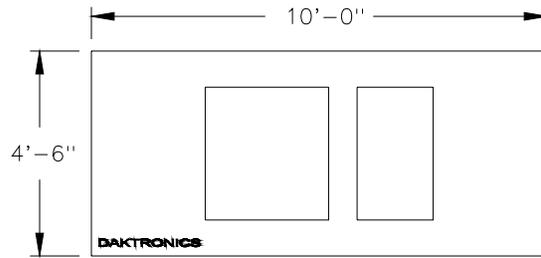
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: **OUTDOOR INCANDESCENT SCOREBOARDS**

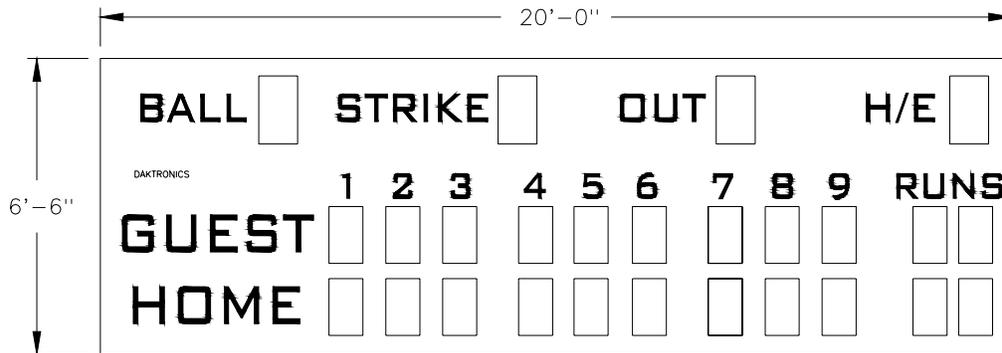
TITLE: **INSTALLATION SPECIFICATIONS; BA-2004/2005/2011**

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

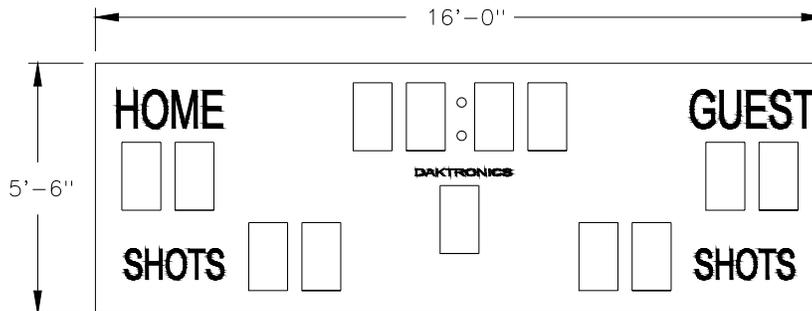
REVISION	APPR. BY:	1091-R10A-152777
SCALE: 1=96		



BA-2003



BA-2004

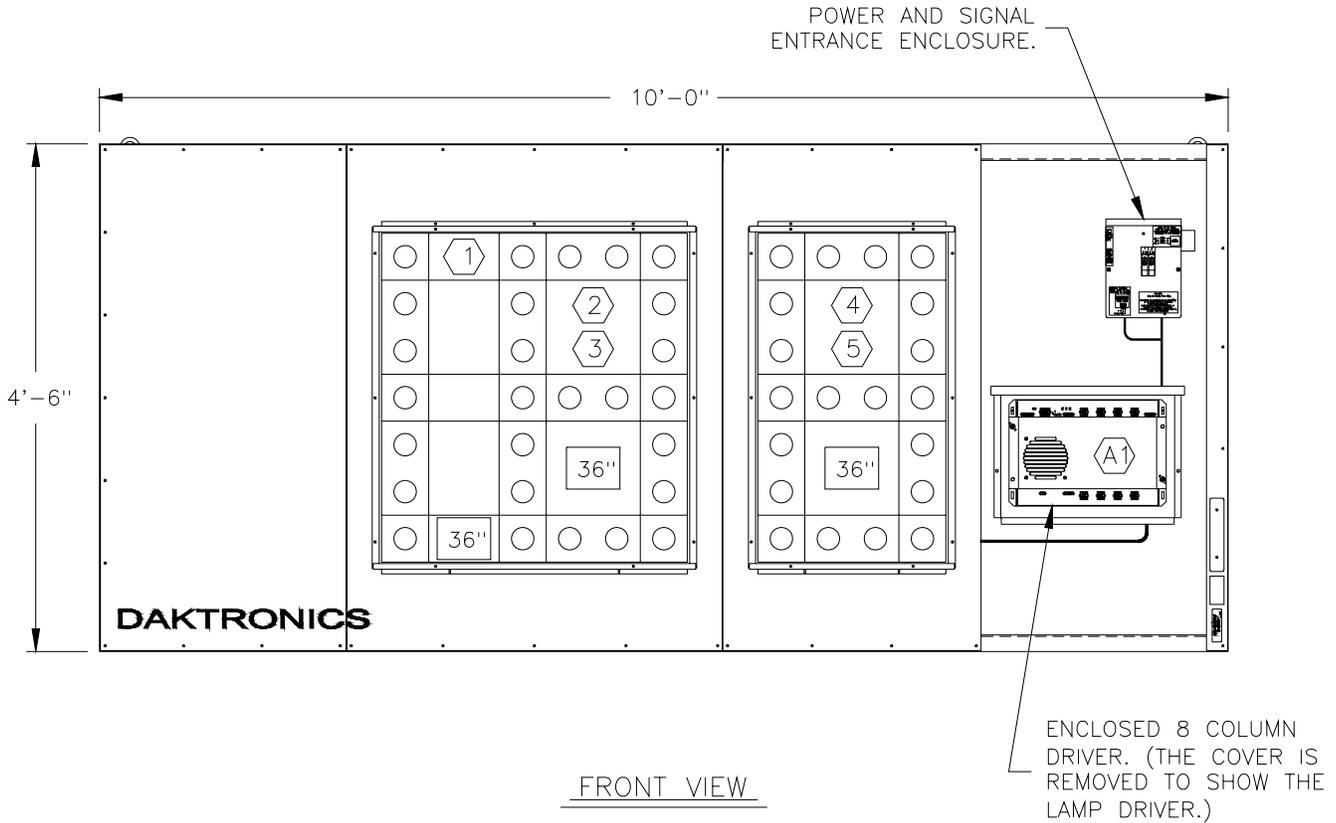


SO-2008*

*** INDICATES MODELS WHICH HAVE A TNMC VERSION

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: OUTDOOR INCANDESCENT SCOREBOARDS				
TITLE: SINGLE SECTION SCOREBOARD MODELS				
DES. BY: MCOPLAN		DRAWN BY: MCOPLAN		DATE: 24JULY01
01	26NOV01	ADDED SO-2008 MODEL	MCOPL	
REV.	DATE	DESCRIPTION	BY	APPR.
REVISION		APPR. BY:	1091-E07A-152945	
		SCALE: 1=50		

BA-2003



① = DRIVER CONNECTOR WIRED TO THAT DIGIT.

36" = DIGIT SIZE

HINGED ACCESS DOOR SHOWN REMOVED TO SHOW INTERNAL ELECTRICAL COMPONENTS.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED DIGIT SCOREBOARDS

TITLE: COMPONENT LOCATIONS, BA-2003

DES. BY: KBRICKER

DRAWN BY: KBRICKER

DATE: 01 NOV 01

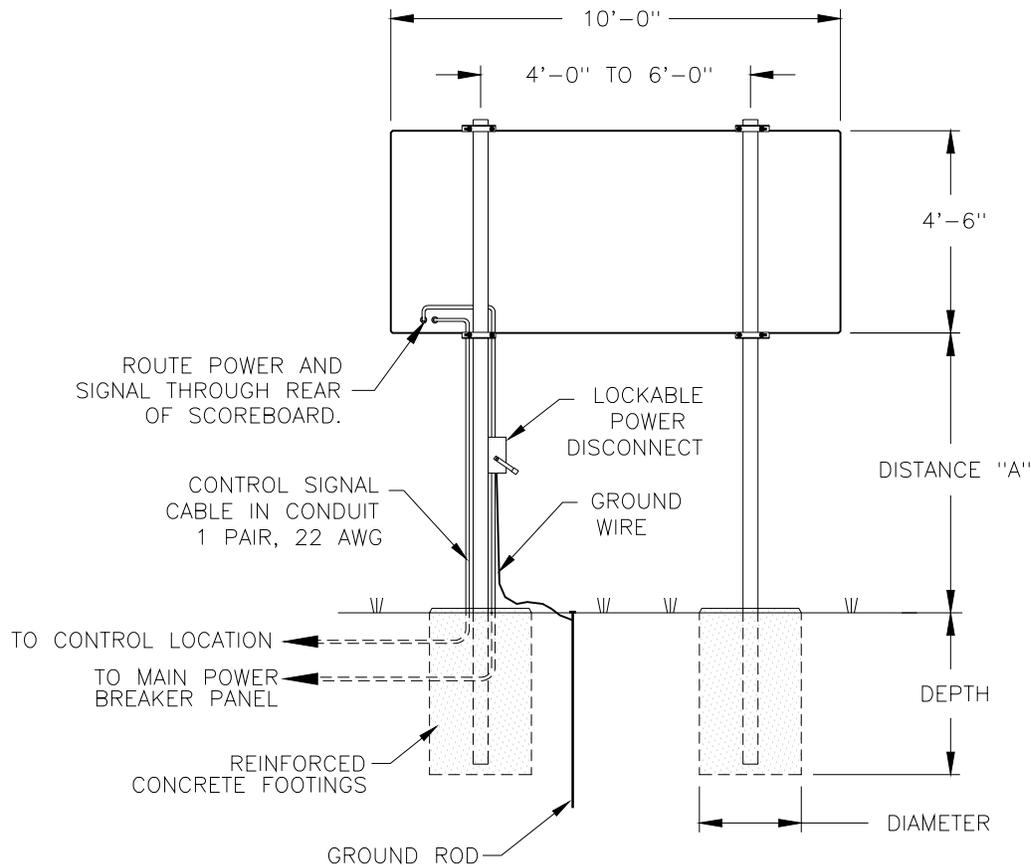
REVISION

APPR. BY:

SCALE: 1=20

1157-E10A-158315

REV.	DATE	DESCRIPTION	BY	APPR.



REAR VIEW

MODEL BA-2003					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	10'-0" x 4'-6"	BEAM FOOTING	W8x10 2.0' x 8.9'	W10x12 2.5' x 5.0'	W10x15 2.5' x 5.9'
12'-0"	10'-0" x 4'-6"	BEAM FOOTING	W10x15 2.5' x 5.2'	W6x15 2.5' x 5.8'	W8x18 2.5' x 6.8'
14'-0"	10'-0" x 4'-6"	BEAM FOOTING	W6x16 2.5' x 5.8'	W8x18 2.5' x 6.4'	W8x21 2.5' x 7.6'

FOOTING = DIAMETER X DEPTH

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

UBC 97 CODE USED WITH SOIL CLASS 3.

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

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

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED DIGIT SCOREBOARDS

TITLE: INSTALLATION SPECIFICATIONS, BA-2003

DES. BY:

DRAWN BY: KBRICKER

DATE: 01 NOV 01

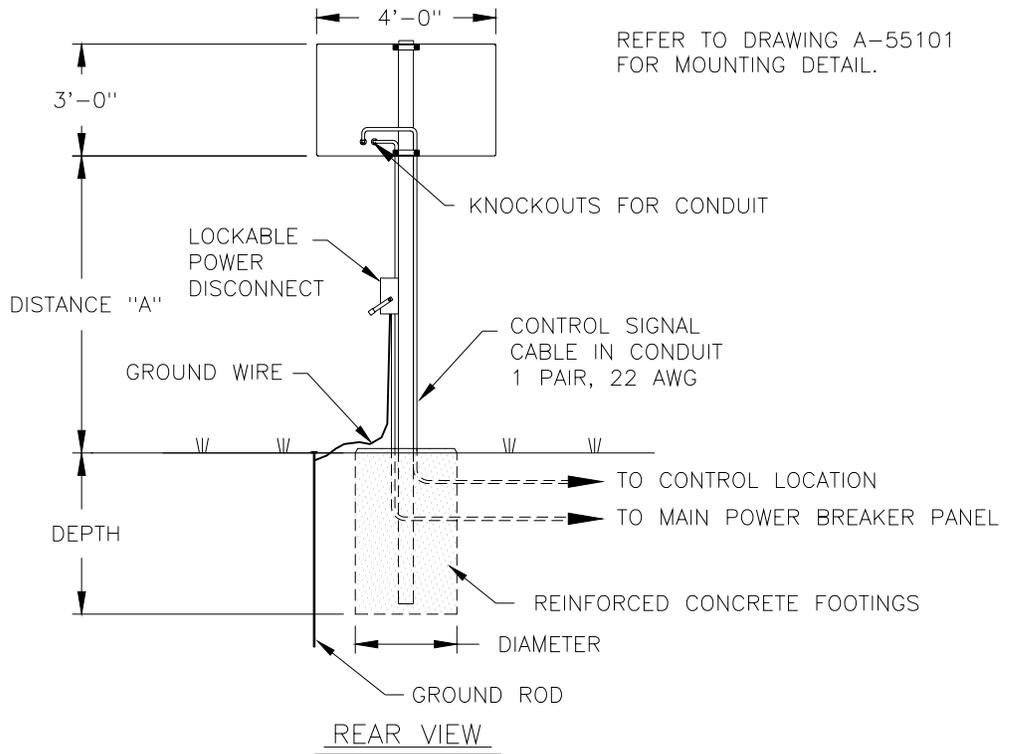
REVISION

APPR. BY:

SCALE: 1=50

1192-E10A-158322

REV.	DATE	DESCRIPTION	BY	APPR.



MODEL TI-2003					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	4'-0" x 3'-0"	BEAM	TS4x4x3/16	TS4x4x3/16	TS4x4x3/16
		FOOTING	2.0' x 3.6'	2.0' x 3.9'	2.0' x 4.6'
12'-0"	4'-0" x 3'-0"	BEAM	TS4x4x3/16	TS4x4x3/16	TS4x4x3/16
		FOOTING	2.0' x 3.8'	2.0' x 4.2'	2.0' x 4.9'
14'-0"	4'-0" x 3'-0"	BEAM	TS4x4x3/16	TS4x4x3/16	TS4x4x3/16
		FOOTING	2.0' x 4.0'	2.0' x 4.4'	2.0' x 5.2'

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

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

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

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR SCOREBOARDS

TITLE: INSTALLATION SPECIFICATIONS; TI-2003

DES. BY: MCOPLAN DRAWN BY: MCOPLAN DATE: 18JUN02

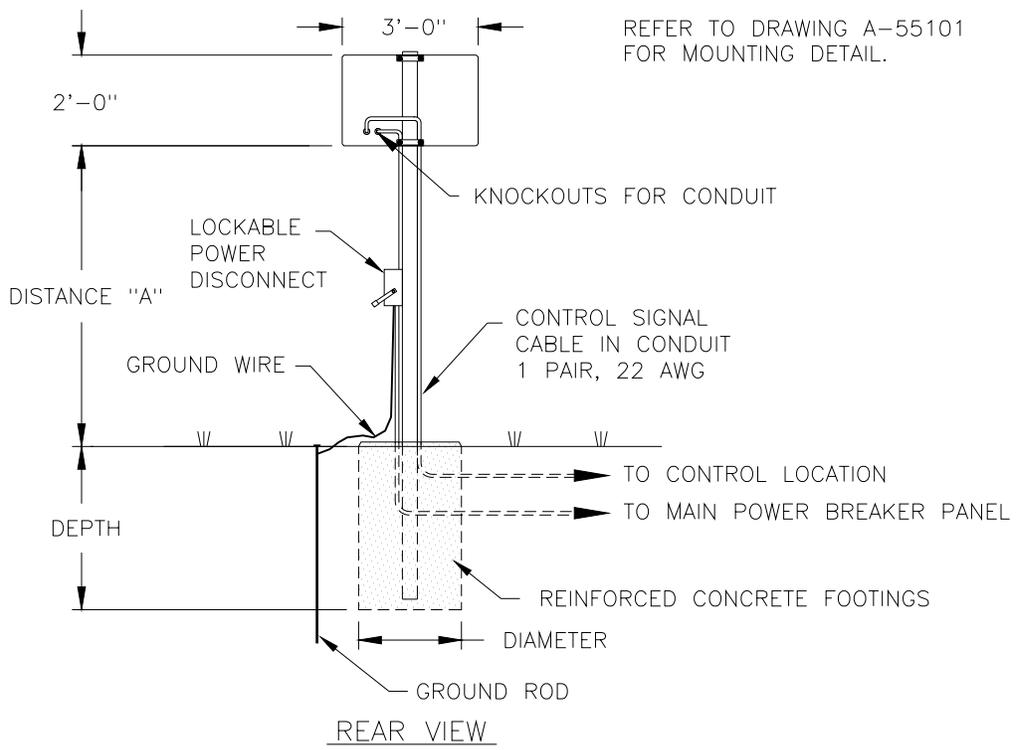
REVISION

APPR. BY:

SCALE: 1=50

1091-E10A-169367

REV.	DATE	DESCRIPTION	BY	APPR.



MODEL TI-218					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	2'-0" x 3'-0"	BEAM	TS4x4x3/16	TS4x4x3/16	TS4x4x3/16
		FOOTING	2.0' x 2.9'	2.0' x 3.2'	2.0' x 3.7'
12'-0"	2'-0" x 3'-0"	BEAM	TS4x4x3/16	TS6x4x3/16	TS6x4x3/16
		FOOTING	2.0' x 3.1'	2.0' x 3.4'	2.0' x 4.0'
14'-0"	2'-0" x 3'-0"	BEAM	TS6x4x3/16	TS6x4x3/16	TS6x4x3/16
		FOOTING	2.0' x 3.3'	2.0' x 3.7'	2.0' x 4.3'

FOOTING = DIAMETER X DEPTH

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

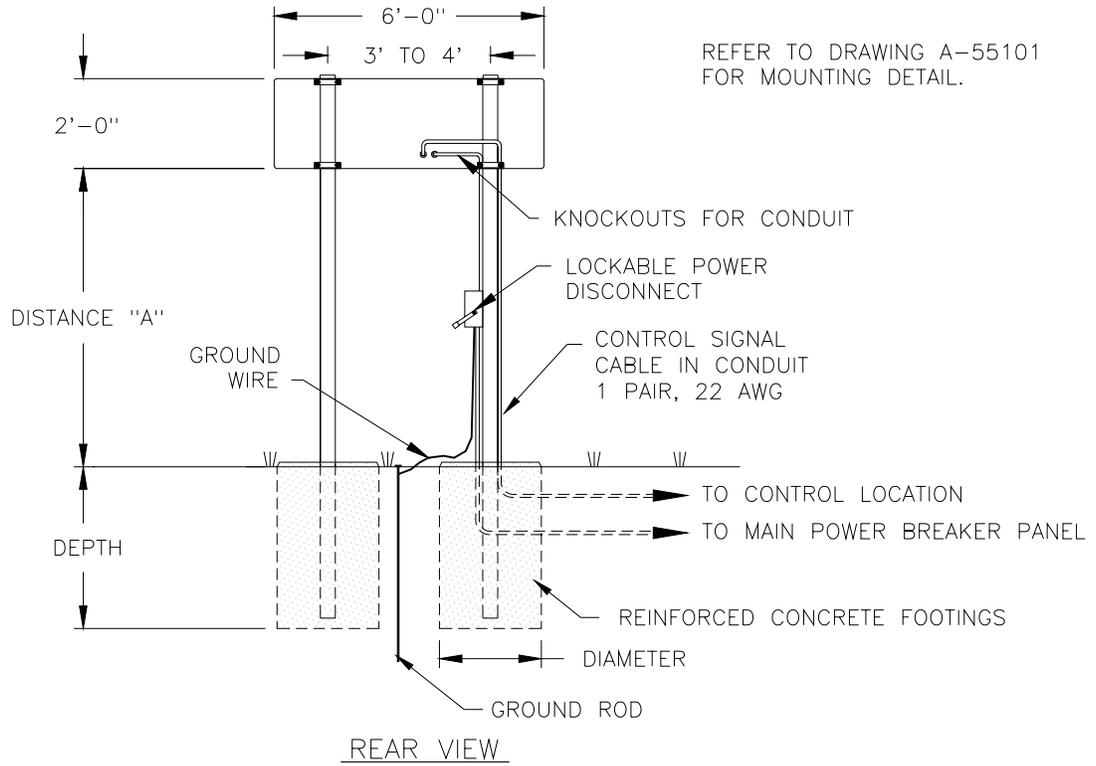
FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

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

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

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DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR SCOREBOARDS			
TITLE: INSTALLATION SPECIFICATIONS; TI-218			
DES. BY: MCOPLAN		DRAWN BY: MCOPLAN	DATE: 18JUN02
REVISION	APPR. BY:	1091-E10A-169376	
00	SCALE: 1=50		

REV.	DATE	DESCRIPTION	BY	APPR.



MODEL TI-418, RO-2011, CT-2001, TI-2019					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	2'-0" x 6'-0"	BEAM FOOTING	W10x8 2.0 X 2.9	W10x8 2.0 X 3.2	W10x9 2.0 X 3.7
12'-0"	2'-0" x 6'-0"	BEAM FOOTING	W10x9 2.0 X 3.1	W6x9 2.0 X 3.4	W6x9 2.0 X 4.0
14'-0"	2'-0" x 6'-0"	BEAM FOOTING	W6x9 2.0 X 3.3	W6x9 2.0 X 3.7	W10x12 2.0 X 4.3

FOOTING = DIAMETER X DEPTH

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

FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

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

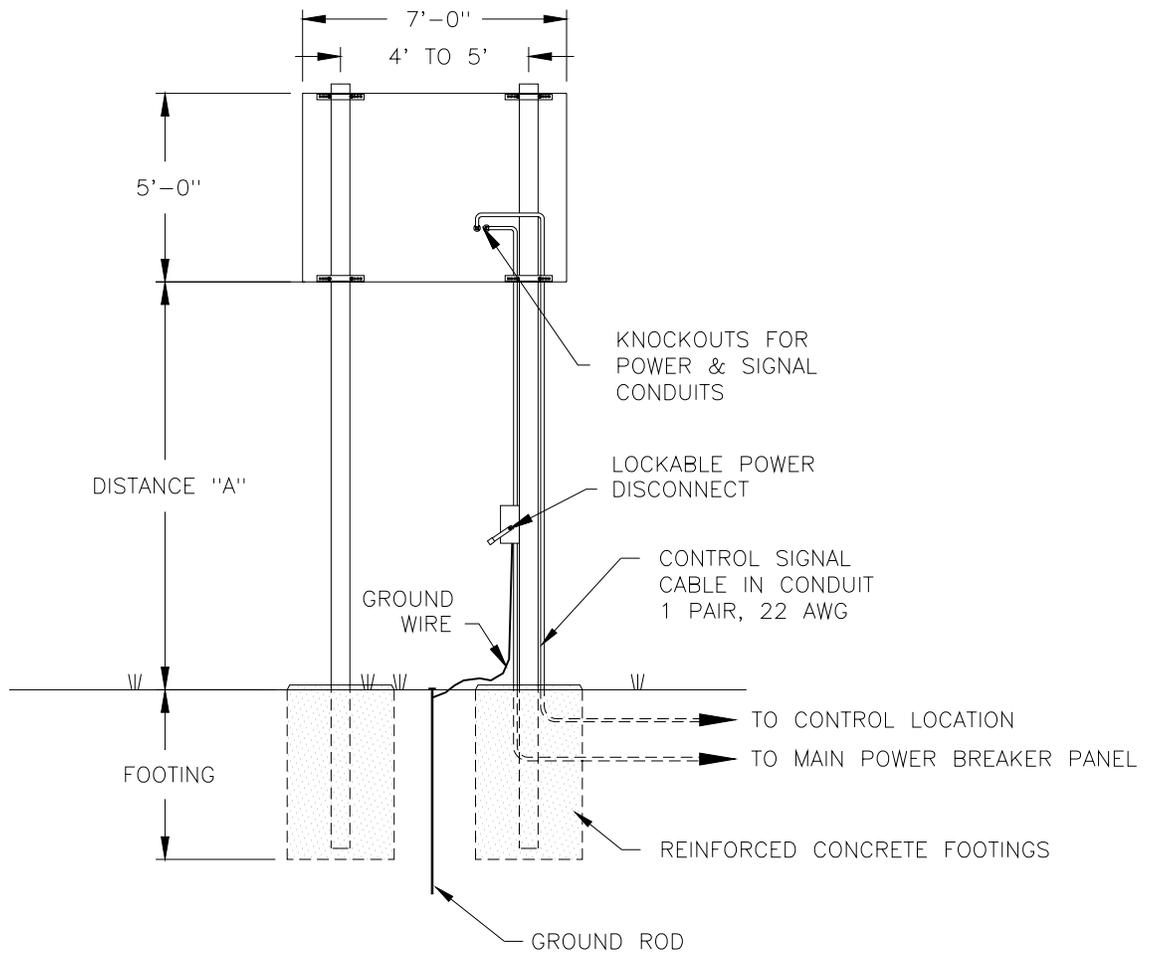
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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR SCOREBOARDS	
TITLE: INSTALLATION SPECS; TI-418/RO-2011/CT-2001/TI-2019	
DES. BY: MCOPLAN	DRAWN BY: MCOPLAN DATE: 18JUN02
REVISION	APPR. BY:
	SCALE: 1=50
1091-E10A-169380	

02	22MAY03	ADDED MODEL CT-2001	MCOPL	
1	14 FEB 03	ADDED MODEL RO-2011 AND TI-2019.	TWEBER	
REV.	DATE	DESCRIPTION	BY	APPR.



REAR VIEW

MODEL FB-2340					
DISTANCE "A" (SEE FIGURE)	TOTAL DISPLAY SIZE		DESIGN WIND VELOCITY		
			70 MPH	80 MPH	100 MPH
10'-0"	7'-0" x 5'-0"	BEAM FOOTING	W8X10 2.0' X 3.9'	W10X12 2.0' X 4.5'	W10X15 2.0' X 5.1'
12'-0"	7'-0" x 5'-0"	BEAM FOOTING	W10X12 2.0' X 4.3'	W10X15 2.0' X 4.6'	W6X15 2.0' X 5.4'
14'-0"	7'-0" x 5'-0"	BEAM FOOTING	W10X15 2.0' X 4.4'	W6X15 2.0' X 4.9'	W6X15 2.0' X 5.7'

FOOTING = DIAMETER X DEPTH

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

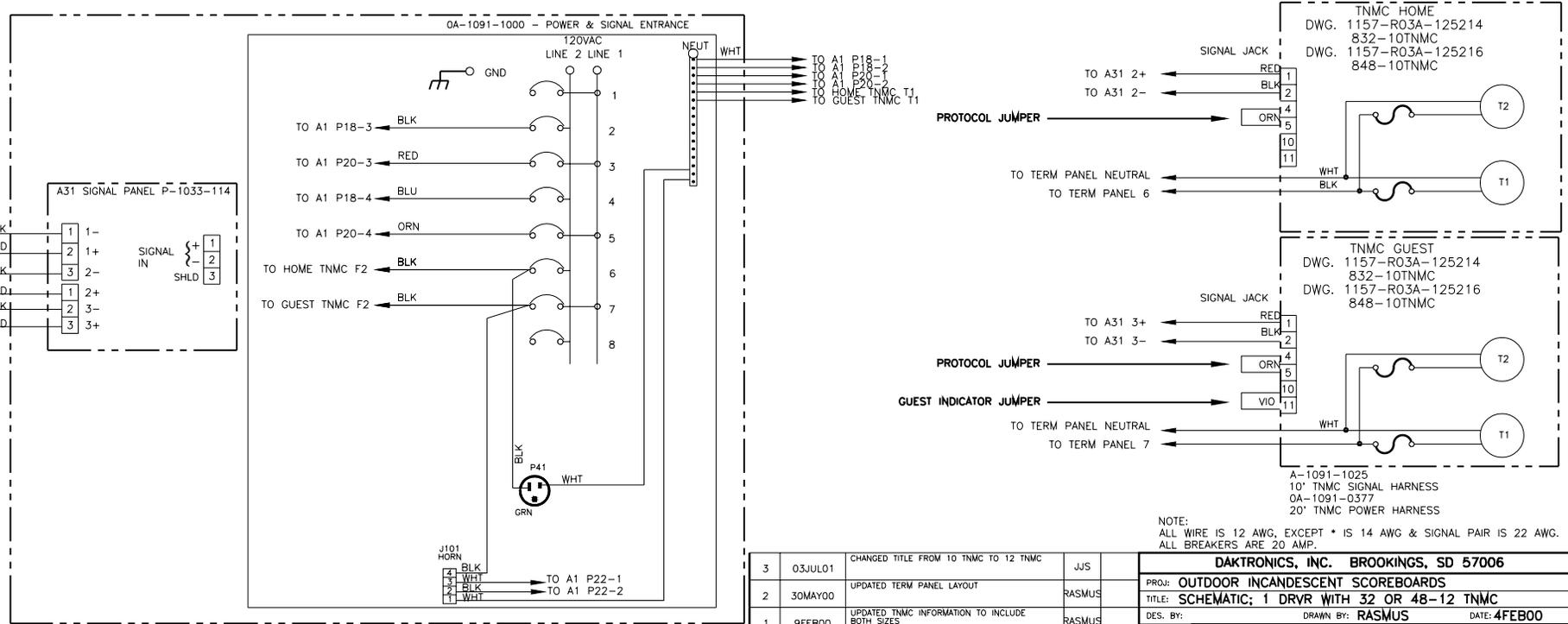
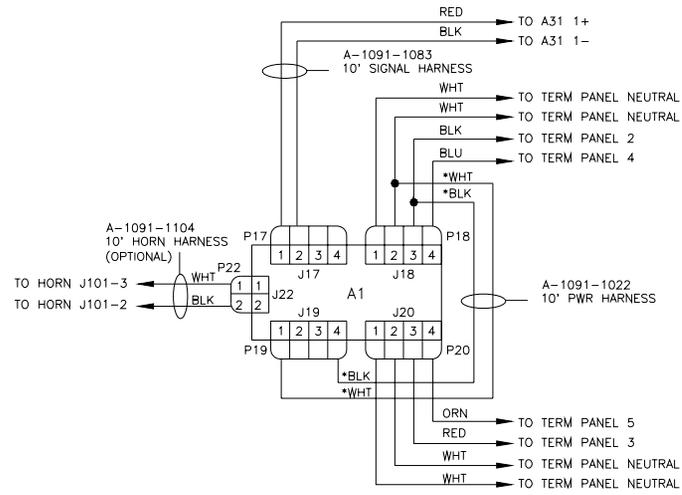
FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL BEARING PRESSURE OF 2000 LB/FT²

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DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: OUTDOOR SCOREBOARDS			
TITLE: INSTALLATION SPECIFICATIONS; FB-2340			
DES. BY: MCOPLAN		DRAWN BY: MCOPLAN	
DATE: 18JUN02			
REVISION	APPR. BY:	1091-E10A-169388	
	SCALE: 1=60		

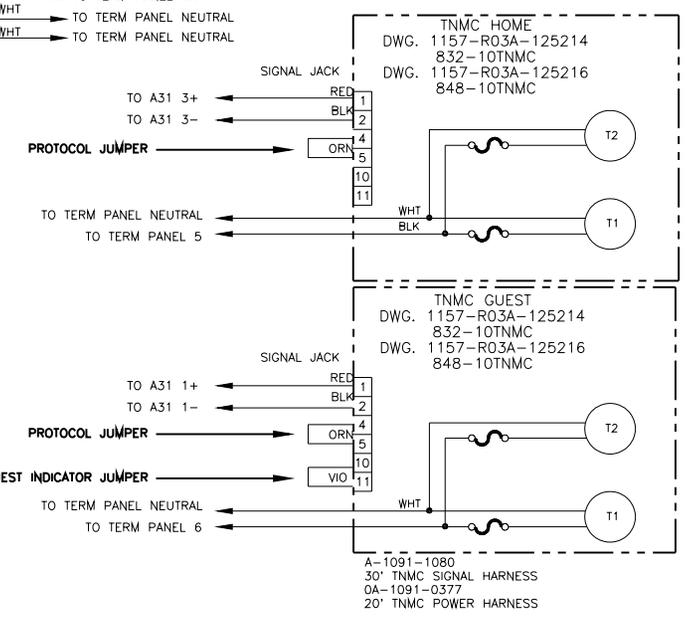
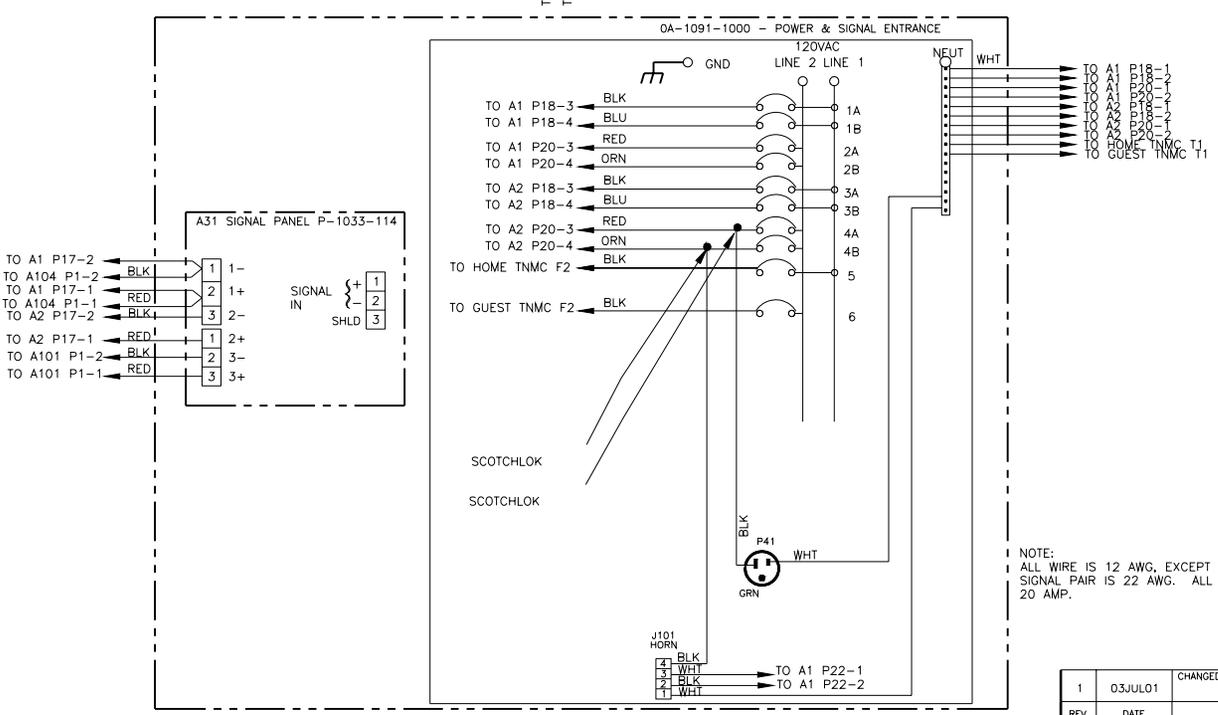
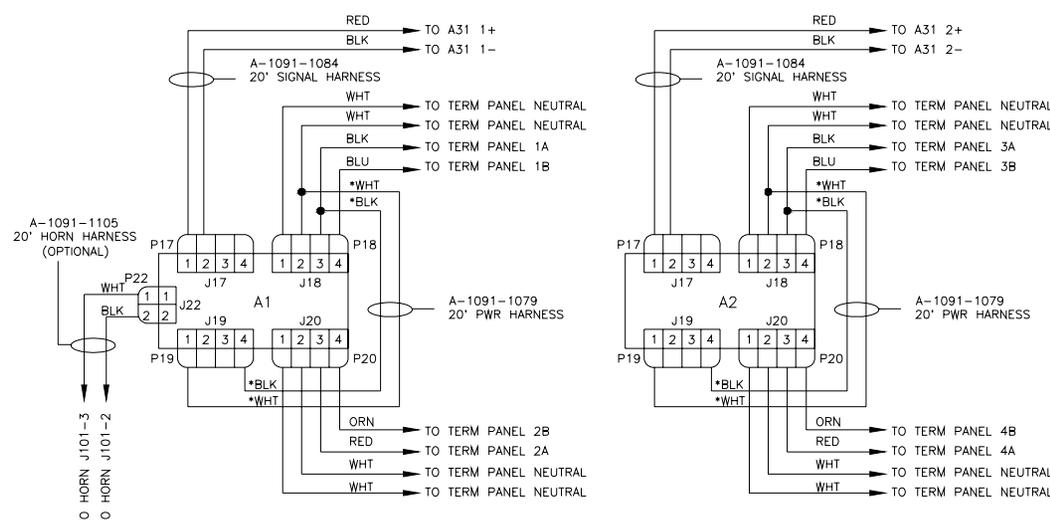
REV.	DATE	DESCRIPTION	BY	APPR.



NOTE:
ALL WIRE IS 12 AWG, EXCEPT * IS 14 AWG & SIGNAL PAIR IS 22 AWG.
ALL BREAKERS ARE 20 AMP.

REV.	DATE	DESCRIPTION	BY	APPR.
3	03JUL01	CHANGED TITLE FROM 10 TNMC TO 12 TNMC	JJS	
2	30MAY00	UPDATED TERM PANEL LAYOUT	RASMUS	
1	9FEB00	UPDATED TNMC INFORMATION TO INCLUDE BOTH SIZES	RASMUS	

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ:	OUTDOOR INCANDESCENT SCOREBOARDS
TITLE:	SCHEMATIC; 1 DRVW WITH 32 OR 48-12 TNMC
DES. BY:	RASMUS
DRAWN BY:	RASMUS
DATE:	4FEB00
REVISION	APPR. BY:
SCALE:	1=1
1091-R03B-127394	



REV.	DATE	DESCRIPTION	BY	APPR.
1	03JUL01	CHANGED TITLE FROM 10 TNMC 50 12TNMC	JJS	

DAKTRONICS, INC. BROOKINGS, SD 57006
 PROJ: **OUTDOOR INCANDESCENT SCOREBOARDS**
 TITLE: **SCHEMATIC: 2 DRVRS WITH 32 OR 48-12TNMC**
 DES. BY: **RASMUS** DATE: **15MAY00**
 REVISION APPR. BY: **1=1**
1091-R03B-132144

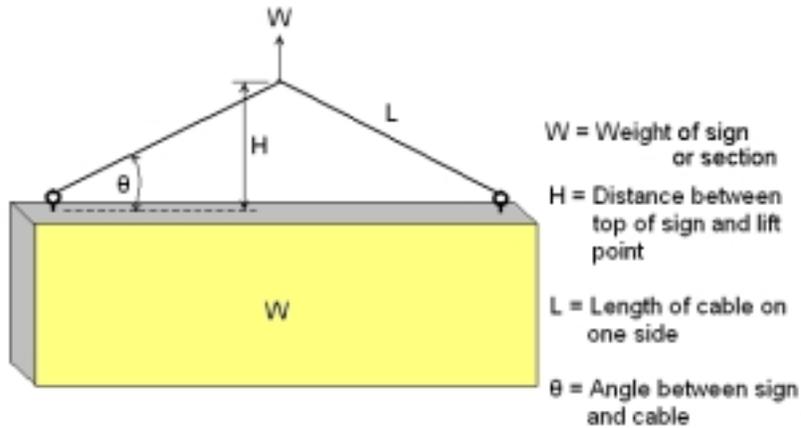
Appendix B: Eyebolts

Eyebolts..... ED-7244

Eyebolts

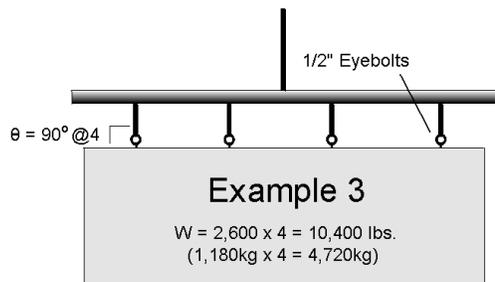
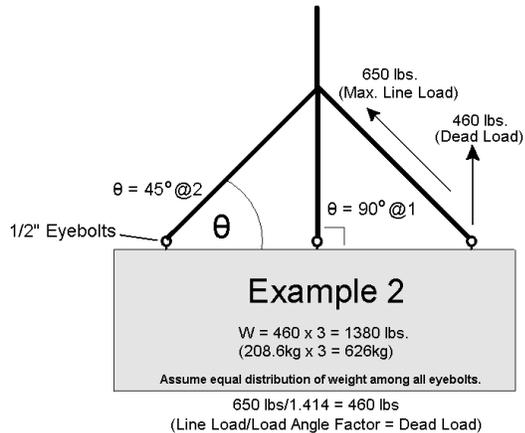
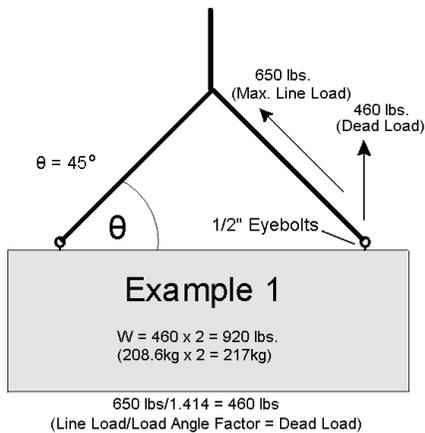
Almost every display that leaves Daktronics is equipped with eyebolts for lifting the display. There are two standard sizes of eyebolts: 1/2" and 5/8".

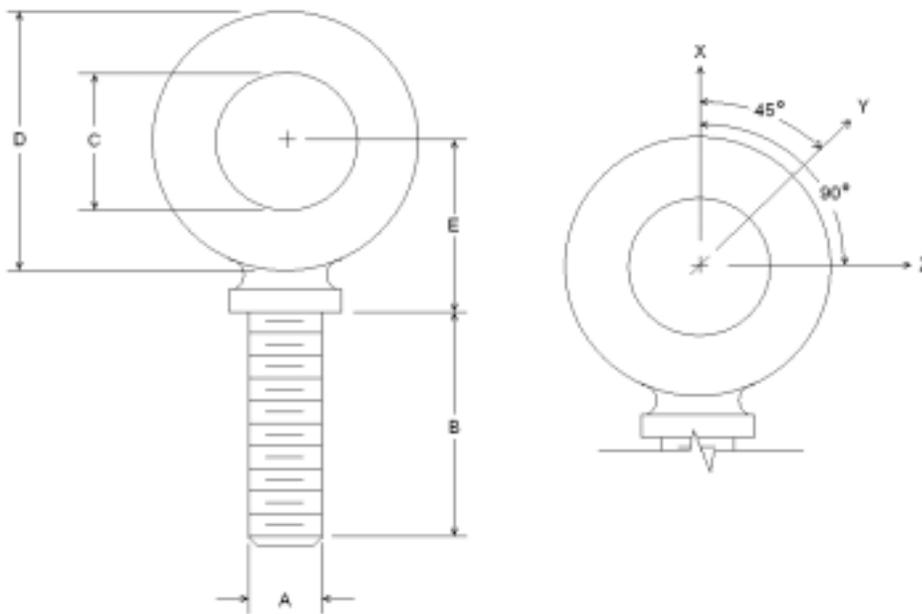
Load Increase Factor: The load increases as the lift angle (θ) decreases. The allowable load on the eyebolts also decreases with the lift angle due the bending stress on the eyebolts. In sum, the smaller the angle between the cable and the top of the display, the lighter the sign must be to safely lift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



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

θ	1/2"		5/8"	
	Line Load	Weight/Anchor	Line Load	Weight/Anchor
90	2600	2600	4000	4000
60	1500	1299	3300	2858
45	650	460	1000	707
30	520	260	800	400





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

- A. Do not use eyebolts on angular lifts unless absolutely necessary. For angular lifts, the shoulder pattern eyebolt is preferred.
- B. Load should always be applied to eyebolts in the plane of the eye, not at some angle to this plane.
- C. Shoulder eyebolts must be properly seated (should bear firmly against the mating part), otherwise the working loads must be reduced to those indicated for regular eyebolts. A washer or spacer may be required to put the plane of the eye in the direction of the load when the shoulder is seated.
- D. No load greater than the safe working load listed in the data table should be used.
- E. To obtain the greatest strength from the eyebolt, it must fit reasonably tight in its mounting hole to prevent accidental unscrewing due to twist of cable.
- F. Eyebolts should never be painted or otherwise coated when used for lifting. Such coatings may cover potential flaws in the eyebolt.
- G. To attain the safe working loads listed for regular eyebolts, 90% of the thread length must be engaged.