Tuff Sport & ColorSmart LED Scorer's Tables

Display Manual

DD1712442 ***Rev 4 – 18 December 2012***

DAKTRONICS

Models					
	ST-2000		ST-2001		ST-3001

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DAKTRONICS

DD1712442
Product 1313
Rev 4 – 18 December 2012

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

Display Serial No. _____

Display Model No. _____

Date Installed _____

DAKTRONICS, INC.

Table of Contents

Section 1: Introduction

This manual explains the technology, operation, and maintenance of Daktronics Tuff Sport® and ColorSmart® scorer's tables. For additional information regarding safety, installation, operation, or service, refer to the telephone numbers listed in **Section 3.9**. This manual is not specific to a particular installation.

Important Safeguards:

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

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

1.1 Resources

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

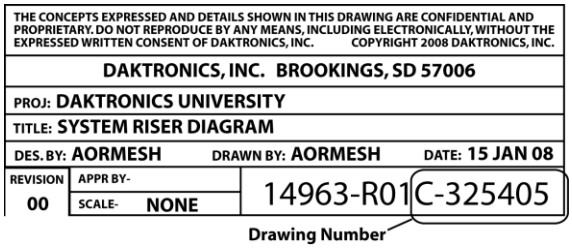


Figure 1: *Daktronics Drawing Label*

Reference Drawing:

System Riser Diagram ..... **Drawing C-325405**

Daktronics identifies manuals by the DD or ED number located on the cover page of each manual. For example, this manual would be referred to as **DD1712442**.

1.2 Daktronics Nomenclature

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

Figure 2: *Display ID Label*

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

Most components within this display carry a white label that lists the part number of the unit. If a component is not found in the Replacement Parts List in **Section 3.8,** use the label to order a replacement. **Figure 3** illustrates a typical label. The part number is in bold.

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

Accessory Labels	
Component	***Label***
Termination block for power or signal cable	**TBXX**
Grounding point	**EXX**
Power or signal jack	**JXX**
Power or signal plug for the opposite jack	**PXX**

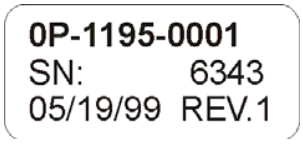


Figure 3: *Typical Label*

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

1.3 Model Number

Daktronics LED scorer's tables are differentiated by the prefix "ST", a 4 number model number, and a two-number suffix that refers to the type of power supply and digit color:

Model #	Description
ST-2000-13 **ST-2001-13**	indoor, 120 V, PanaView® digits
ST-2000-15 **ST-2001-15**	indoor, 120 V, UniView® digits
ST-3001-19	indoor, 120 V, ColorSmart® digits

1.4 Scoreboard Controllers

Daktronics Tuff Sport LED scorer's tables are designed for use with the All Sport® 5000 series control consoles, while ColorSmart models use All Sport 5500 series consoles. Both consoles use keyboard overlays (sport inserts) and sport codes to control numerous sports and scoreboard models. Refer to the following manuals for operating instructions:

Model	Control Console
ST-2000 ST-2001	All Sport 5000 Series Control Console Operation Manual (ED-11976)
ST-3001	All Sport 5500 Series Control Console Operations Manual (ED-16809)

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

Section 2: Display Specifications & Setup

2.1 Specifications

The table below shows all of the mechanical specifications, circuit specifications, and maximum power requirements for each model in this manual.

Model	Dimensions: Height, Width (including padding), & Depth	Weight	Watts	Volts	Amps
ST-2000	H 3'0" x W 8'5" x D 3'4" (914mm, 2565mm, 1016mm)	235 lb (107 kg)	1440 W	120 VAC	12 A
ST-2001	H 3'0" x W 8'5" x D 3'4" (914mm, 2565mm, 1016mm)	235 lb (107 kg)	1440 W	120 VAC	12 A
ST-3001	H 3'0" x W 8'5" x D 3'4" (914mm, 2565mm, 1016mm)	235 lb (107 kg)	1440 W	120 VAC	12 A

Notes:

1. Power shown includes max load placed on table including convenience outlets. Refer to **Drawing A-210619** for details.
2. Table counter top capacity is rated at 150 lb max.

2.2 Setup

To set up a scorer's table:

1. Move the scorer's table to the desired location.

   If more than one scorer's table is to be used as part of a single display face, line the tables up side by side and use the three metal latches (one above the counter top, one next to the rear castors, and one on the lower-front of the frame) to link the tables together.

   The tension of the latches used to connect multiple scorer's tables is not set at the factory. When engaged, the latches should create a snug fit. If there is a noticeable gap between tables, or it is difficult to clasp the latches shut, the tension can be adjusted as follows:

   a. Use a 5/16" wrench to loosen the nut that is holding the metal hook in place.
   b. Turn the metal hook clockwise to give the latch a tighter fit, or turn the metal hook counterclockwise to give the latch a looser fit.
   c. Make sure the metal hook is pointing downward and then tighten the nut.

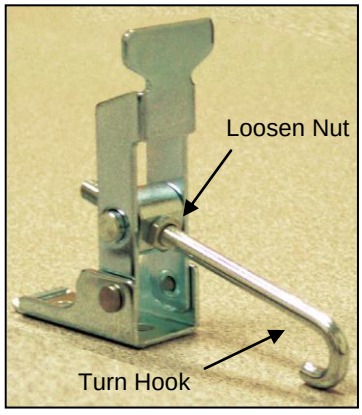


Figure 4: *Adjusting Latch Tension*

2. Lift the table counter top approximately 90 degrees and swing the side legs out and into place underneath. Use the locking slots to secure.

   Note: It may be helpful to have two people perform this procedure: one to lift and hold the table counter top and another to position and lock the legs in place.

3. Press down on the leg stops to make sure the table is level on both sides. For further stability, also lock the rear table wheels.
4. Connect the twist lock power cord to the power-in plug in the lower-right corner of the scorer's table, and then connect the plug to a grounding-type power outlet.
5. Set an All Sport 5000 or 5500 control console on the counter top and plug the power cord into one of the 4 convenience outlets.
6. Connect the ¼" signal cable from J1, J2, or J3 on the control console to the All Sport signal jack located between the first and second convenience jacks. If there are multiple tables with LED light strips, also connect the appropriate signal cables (refer to **Light Strip Kit**).
7. Power on the control console and enter the appropriate sport code (found on the keyboard overlay and in All Sport manuals).

Possession Indicator

Daktronics scorer's tables may have an optional possession indicator that sits atop the table padding. These are factory installed and require no additional setup. To operate, simply flip the switch on the back of the unit toward the side of the court that has possession, and the LED indicators will illuminate on both the front and back of the unit (**Figure 6**).

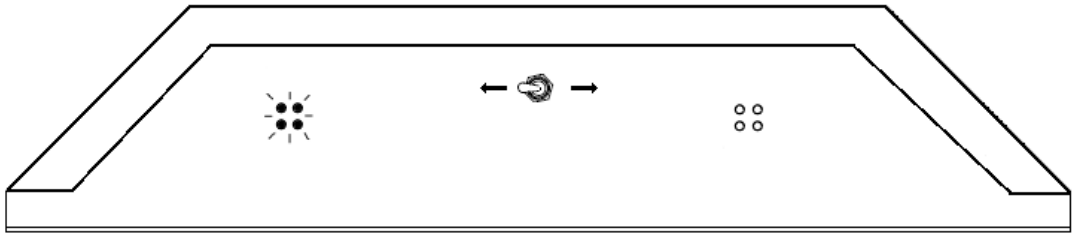


Figure 6: *Possession Indicator Switch*

Light Strip Kit

Daktronics scorer's tables may have optional light strips running along the bottom front of the table that illuminate at the end of the period. These are factory installed and require no additional setup.

However, if multiple tables featuring light strips are to be connected together, any additional light strips will be controlled via 3-pin XLR cables running between the tables. Refer to **Figure 5** for the location of the XLR input and output jacks.

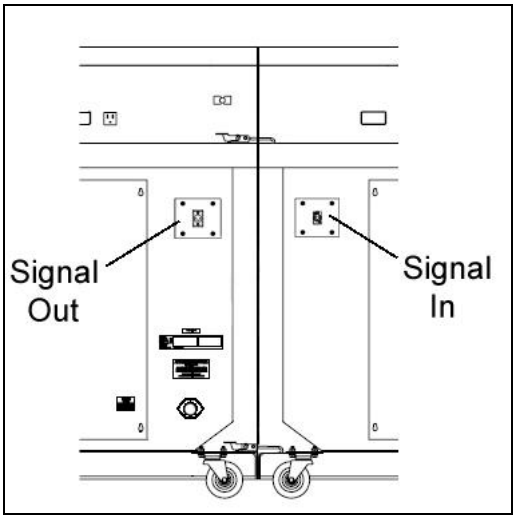


Figure 5: *Light Strip Input / Output Jacks*

Radio Control

Refer to **Drawing A-1117167** in **Appendix A** for optional radio receiver installation instructions. Then refer to **Drawing A-1109105** for connection details to both Tuff Sport and ColorSmart scorer's table drivers as well as how to set the radio Broadcast and Channel settings. The radio settings must match those set in the control console (for more information on radio settings, refer to the appropriate control console manual listed in **Section 1.4**).

Indoor radio systems have an optimal operating range of 20' – 500' between the control console and the scoreboard(s). A radio-equipped All Sport console sitting directly on a radio-equipped scorer's table is too close, and may decrease control reliability. The All Sport console at the scorer's table location would work best to control other scoreboards via radio. However, an All Sport console located elsewhere in the facility could control the scorer's table or any other scoreboards that have radio receivers installed.

> **Note:** If an All Sport console is to control the scoreboard(s) via radio and the scorer's table too, there must be a wired signal to the scorer's table. Refer to **Drawing B-168045** for installation instructions of the radio/wire switch (required for Tuff Sport models only; ColorSmart scoreboards auto switch between wire and radio signal).

2.3 Power-On Self-Test (POST)

The scoreboard performs a self-test each time that power is turned on and the control console is powered off or not attached to the scoreboard. If the control console is attached and powered on, the self-test does not run, and data from the control console is displayed on the scoreboard after a brief period of time. Each scoreboard self-test pattern will vary depending on the scoreboard model, the number of drivers and types of digits. **Figure 7** shows an example of the LED bar test pattern that each digit performs.

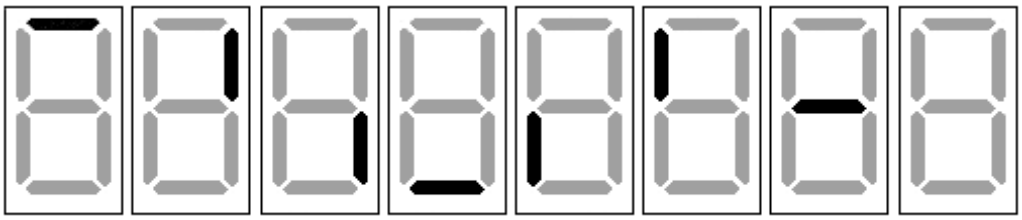


Figure 7: *Digit Segment POST*

Radio Settings

If a radio receiver is installed, the radio broadcast settings ("b1") and the channel settings ("C1") will be displayed in the clock digits (**Figure 8**) during the POST. These values must match the settings in the control console (refer to the appropriate control console manual listed in **Section 1.4**).

Figure 8: *Radio Settings in Clock Digits*

Section 3: Troubleshooting

IMPORTANT NOTES:

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

3.1 Troubleshooting Table

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

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

If a problem occurs that is not listed or that cannot be resolved using the solutions in the following table, contact Daktronics using the information provided in **Section 3.9**.

Problem	Possible Cause	Solution/Items to Check
Scoreboard doesn't light and console doesn't work	No power to the scoreboard	Check that the main circuit breaker for the scoreboard is on.
		Check that the scoreboard is receiving 120 (or 230) VAC power.
	No power to console	Ensure the console is plugged into a 120 (or 230) VAC power supply.
		Swap the console with one known to work correctly, and enter the proper sport code to test. Replace console if necessary.
Scoreboard digits don't light, but console works	No wired signal from console	Check that the scoreboard is receiving 120 (or 230) VAC power.
		Check that the red DS2 LED on the driver lights up when sending commands from the control console (see **Section 3.5**).
	No radio signal from console	Cycle power to the scoreboard and watch for radio receiver broadcast/ channel settings (see **Section 2.3**).
		Check that the green POWER and amber RADIO IN RANGE indicators on the radio receiver in the scoreboard light up when the control console is powered on. Keep the console between 20 to 500 feet from the scoreboard.

Problem	Possible Cause	Solution/Items to Check
		Move the console 20-30 feet from the scoreboard and test again. Verify that both the console and scoreboard antennae are securely tightened and in a vertical position.
		Replace the radio receiver.
	No signal to driver	Check that the scoreboard is receiving 120 (or 230) VAC power.
		Check that the red DS2 LED on the driver lights up when sending commands from the control console (see **Section 3.5**).
		Swap the driver with one known to work correctly and with the same part number to verify the problem. Replace if necessary (see **Section 3.5**).
	No power to driver	Check that the green DS1 LED on the driver is always lit up when the scoreboard is powered on (see **Section 3.5**).
Scoreboard digits light, but not in the correct order	Incorrect sport code	Ensure the correct sport code is being used for the scoreboard model. Refer to the operation manual for the console being used (see **Section 1.4**).
	Incorrect driver address	Check that the scoreboard driver(s) are set to the correct address(es) (see **Section 3.5**).
Scoreboard digits light, console works, but no display on scoreboard	No wired signal from console	(See solution on previous page)
	No radio signal from console	(See solution on previous page)
	Bad/damaged wiring	Check that the red DS2 LED on the driver lights up when sending commands from the control console (see **Section 3.5**).
Scoreboard works, but some LEDs always stay on	Short in digit or indicator circuit	Swap the digit/indicator with one known to work correctly to verify the problem. Replace if necessary (see **Sections 3.3 - 3.4**).
Scoreboard works, but some LEDs do not light or they blink	Bad connection	Verify the power/signal connector on the back of the digit circuit board is secure (see **Sections 3.3 - 3.4**).
	Bad digit or driver	Swap the digit/driver with one known to work correctly to verify the problem. Replace if necessary (see **Sections 3.3 - 3.4** for digits or **Section 3.5** for drivers).

Problem	Possible Cause	Solution/Items to Check
Scoreboard works, but some digits do not light	Bad digit or driver	(see solution above)
	Incorrect sport code	(see solution above)
	Incorrect driver address	(see solution above)
	Wrong console controlling scoreboard	Another console's radio signal could be transmitting to the scoreboard.
	Radio interference	There may be other radio transmissions in the area that overpower the console. If it is not possible to disable the interfering device, It may be necessary to run a wired signal connection instead.

3.2 Component Locations & Access

Daktronics scorer's tables are accessible both from the front by removing the individual digit panels and through the rear by removing the access panels.

Rear Access

To access components through the rear, loosen the six screws securing the access panel and lift it off of the keyholes (**Figure 9**).

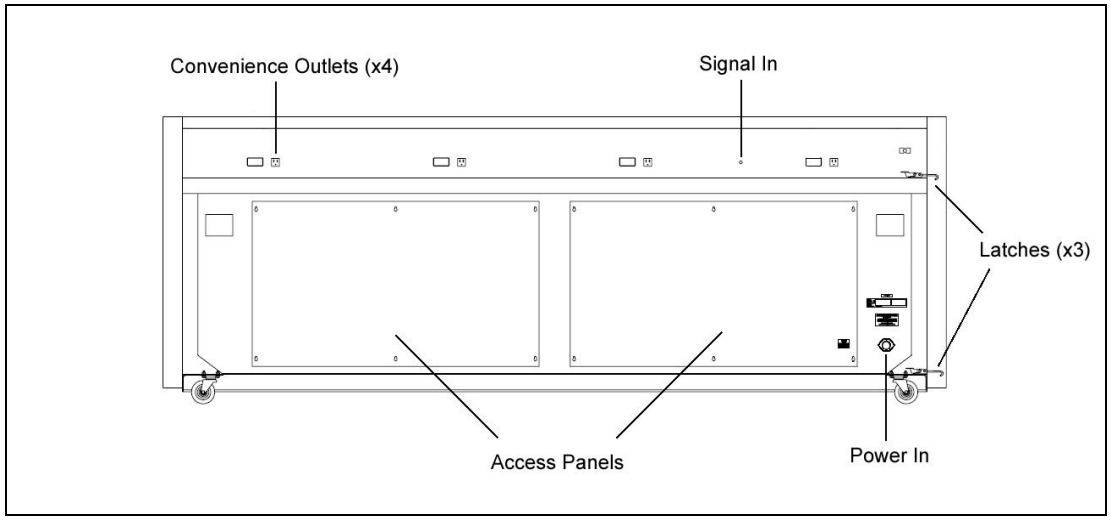


Figure 9: *Component Locations (counter top and legs removed to show detail)*

Front Access

Digit panels are typically held in place by two screws. To remove a digit, unfasten the screws and carefully lift the unit from the display. The signal harness can then be disconnected from the back of the digit to access the internal components.

3.3 Replacing Digits

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

The process of replacing digits varies by whether it is a PanaView digit or UniView/ColorSmart digit (**Figure 10**).

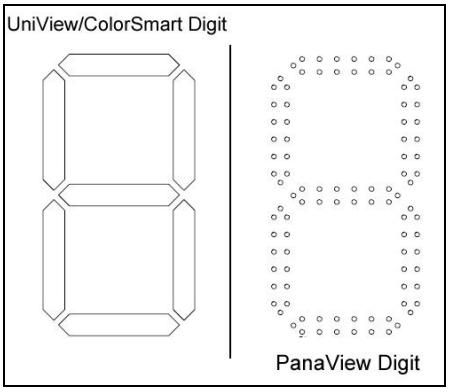


Figure 10: *Digit Types*

PanaView

To replace a PanaView digit circuit board (**Figure 11**):

1. Open the digit panel using the front access method as described in **Section 3.2**.
2. Disconnect the power/signal connector from the back of the digit by squeezing together the locking tabs and pulling the connector free.
3. Use a $^{9}/_{32}$" nut driver to remove the nuts securing the digits to the inside of the panel, and then lift the digit off the stud inserts.
4. Position a new digit over the studs (making sure the small plastic spacers are still in place) and tighten the nuts.
5. Reconnect the power/signal connector.

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

6. Secure the digit panel to the display with the two screws, then power up and test the display to see if changing the digit has resolved the problem.

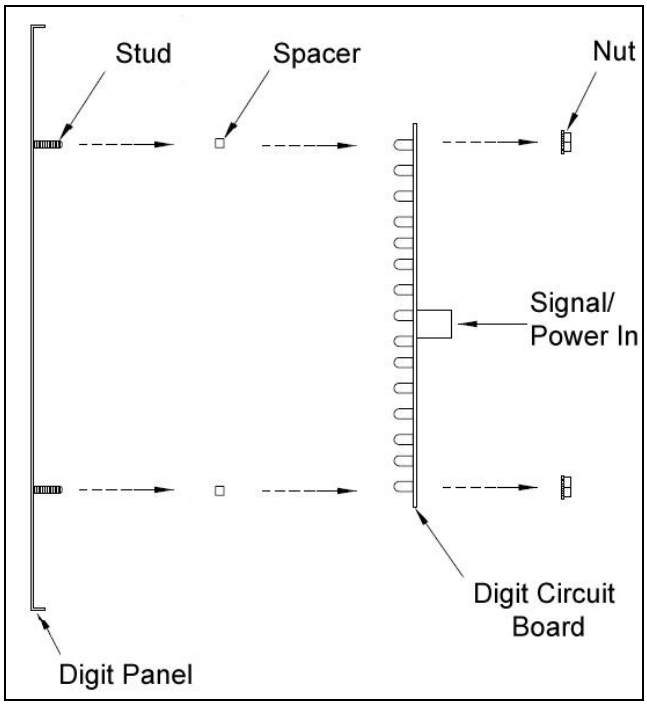


Figure 11: *PanaView Digit Assembly*

UniView/ColorSmart

To replace a UniView or ColorSmart digit circuit board (**Figure 12**):

1. Open the digit panel using the front access method as described in **Section 3.2**.
2. Disconnect the power/signal connector from the back of the digit by squeezing together the locking tabs and pulling the connector free.
3. Use a $^{9}/_{32}$" nut driver to remove the nuts securing the digits to the aluminum standoffs, and then lift the digit off the standoff/diffuser assembly.
4. Position a new digit over the standoffs, and tighten the nuts. It may be necessary to also tighten the standoffs if they became loose while removing the nuts.
5. Reconnect the power/signal connector.

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

6. Secure the digit panel to the display with the two screws, then power up and test the display to see if changing the digit has resolved the problem.

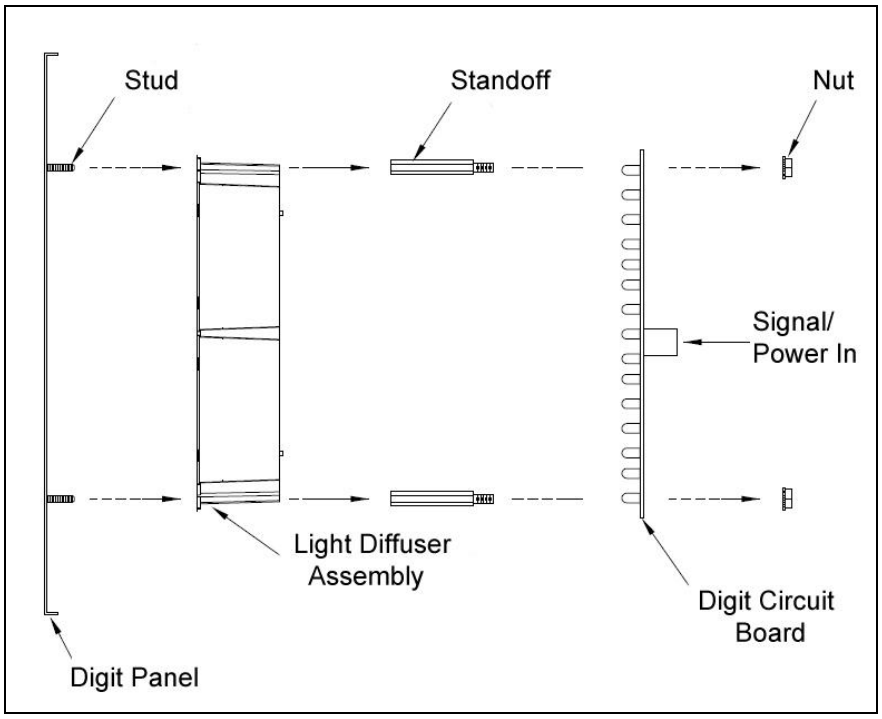


Figure 12: *UniView/ColorSmart Digit Assembly*

3.4 Tabletop Possession Indicators

To replace an optional tabletop possession indicator arrow/colon:

1. Remove the 8 screws securing the possession indicator cover.
2. Disconnect the power/signal cable from the malfunctioning indicator.
3. Use a 9/32" nut driver to remove the nuts securing the indicator to the inside of the panel, and then lift it off the stud inserts.
4. Position a new indicator over the studs (making sure the small plastic spacers are still in place) and tighten the nuts.
5. Reconnect the power/signal cable, and replace all screws for the indicator and cover.

3.5 LED Driver

The LED drivers perform the task of switching digits on and off within the scoreboard. Refer to **Figure 13** to view the location of the driver tray within the scorer's table.

Figure 13 also shows the location of the optional light strip kit (refer to **Section 3.7**).

The components of the driver tray will vary by model (**Figure 14**):

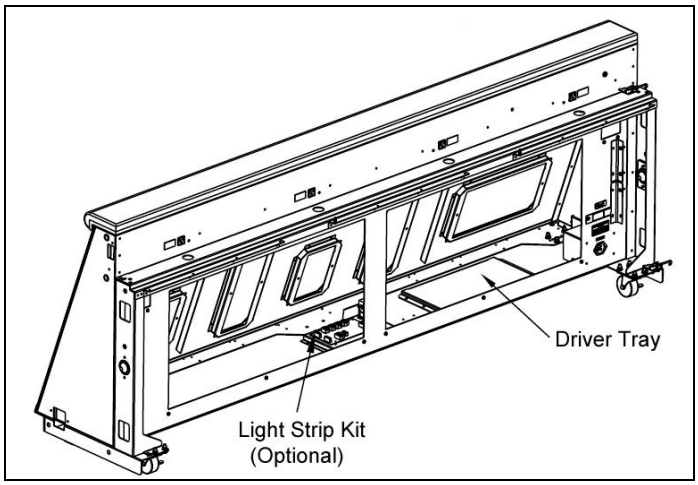
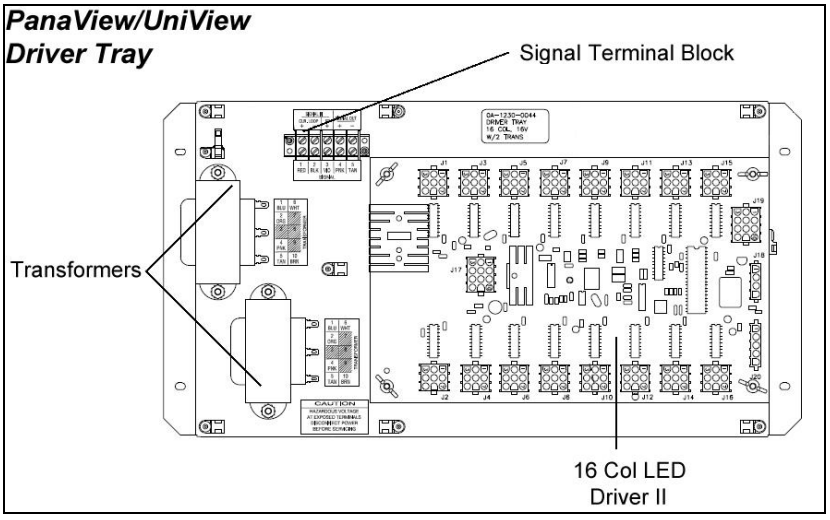


Figure 13: *Driver Tray Location*
(counter top & legs removed to show detail)



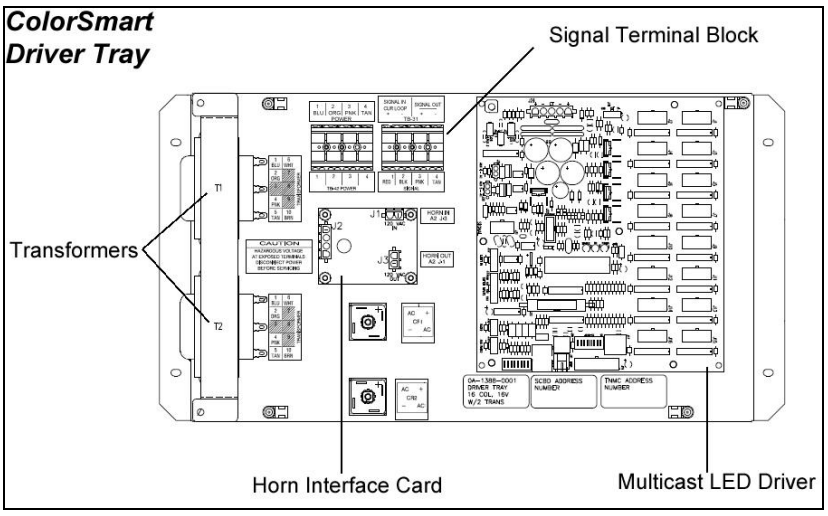


Figure 14: *Driver Tray Components*

When troubleshooting driver problems, three LEDs labeled **DS1**, **DS2**, and **DS3** in **Figure 15**, provide the following diagnostic information:

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

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

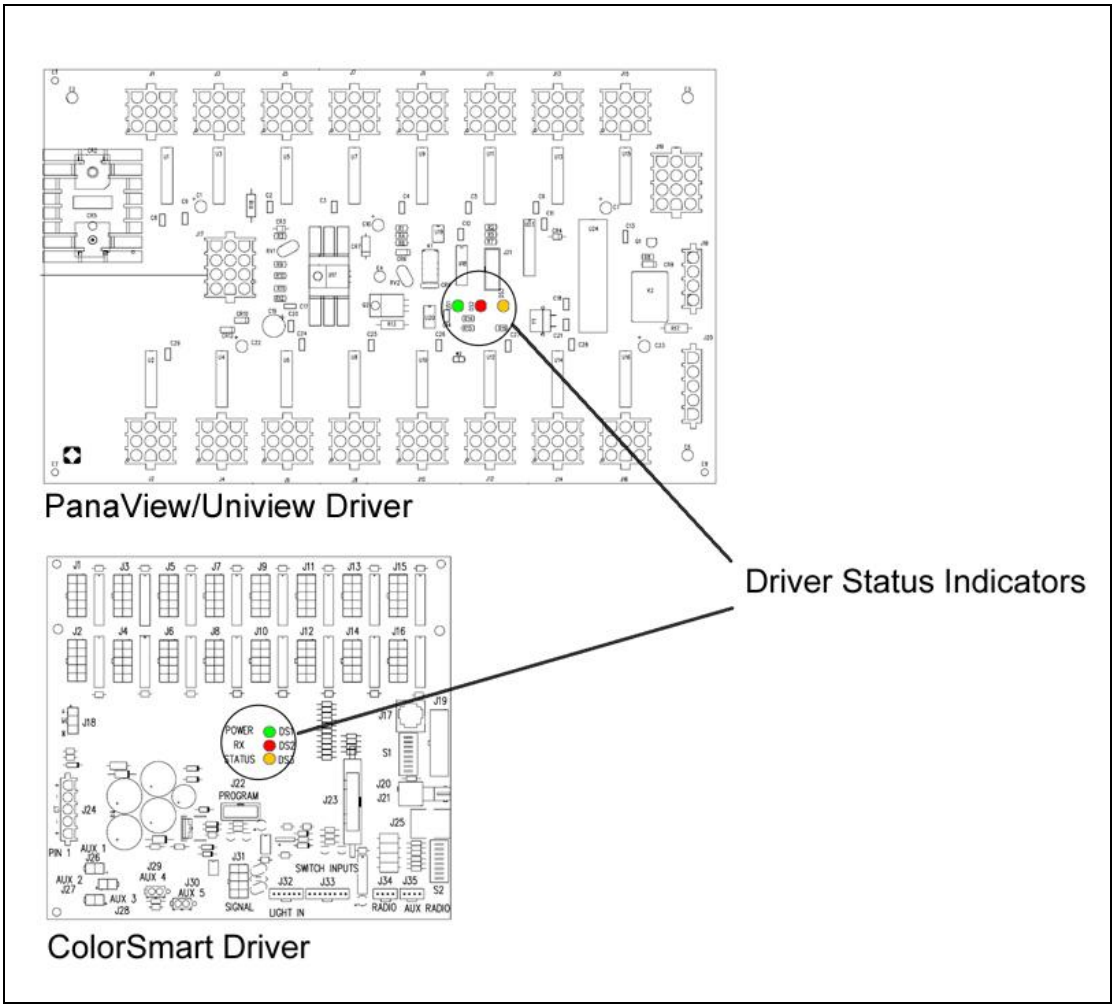


Figure 15: *Driver Status Indicators*

Replacing a Driver

If the driver status indicators do not appear to be working correctly, it may be necessary to replace the driver.

1. Open the table from the rear as described in **Section 3.2**.
2. Disconnect all connectors from the driver by squeezing together the locking tabs and pulling the connectors free.

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

3. Remove the wing nuts securing the driver to the driver tray.
4. Carefully lift the driver from the display and place it on a clean, flat surface.
5. Position a new driver over the screws and tighten the nuts.
6. Reconnect all power/signal connectors.

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

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

Setting the Driver Address

For the scoreboard to receive signal and function properly, the driver must be set to the correct address.

All scoreboard tables in this manual use address 17.

This address is set with jumper wires in a 12-pin plug which mates with jack J19 on the driver (**Figure 16**). Refer to **Drawing A-115078** for a listing of the wire/pin connections for driver addresses 1 – 128.

ColorSmart scorer's table drivers also have the option of setting the address using the S1 dip switch on the driver (**Figure 17**) using a pen or small, pointed object. Refer to **Drawing A-290261** for addressing information for driver addresses 1 – 128.

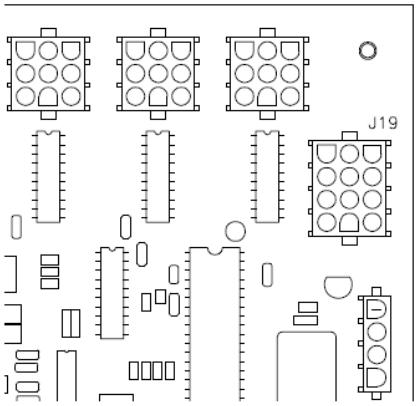


Figure 16: *J19 Address (LED Driver II)*

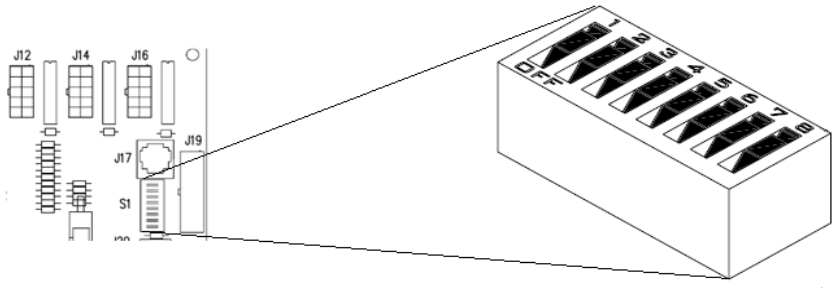


Figure 17: *Driver Address Dip Switch (ColorSmart Driver)*

3.6 Replacing a Horn

The optional buzzer horn is located on the face of the display to the right of the clock.

1. Open the horn panel by removing the two screws securing it to the display face.
2. Use a 9/32" nut driver to remove the nuts securing the horn to the panel.
3. Open the table from the rear as described in **Section 3.2**.
4. Follow the cable from the horn to the horn interface card, and disconnect the cable from the card to completely remove the horn from the display.
5. Attach a new horn to the panel, and then run the cable to the horn card and connect.
6. Reattach the horn panel to the display face and close the access panels.

Note: If replacing the horn doesn't fix the problem, try replacing the horn interface card.

3.7 Replacing a Light Strip Driver

The light strip uses a driver similar to the one controlling the scoreboard. If the light strip driver must be replaced, refer to the instructions under **Replacing a Driver** in **Section 3.5**. ***Use driver address 01***; refer to **Drawing A-115078** for a listing of the wire/pin connections.

3.8 Replacement Parts

Description	Daktronics Part #	Model #
LED Driver 16 Column	0P-1150-0126	ST-2000, ST-2001
PanaView Digit, 7" red LED, 7-seg	0P-1230-0048	ST-2000, ST-2001
PanaView Digit, 7" red LED, 2-seg	0P-1230-0058	ST-2001
PanaView Digit, 7" amber LED, 7-seg	0P-1230-0049	ST-2000, ST-2001
PanaView Digit, 7" amber LED, 2-seg	0P-1230-0059	ST-2000
PanaView B-Bonus Indicator, Amber	0P-1150-0217	ST-2000, ST-2001
PanaView Arrow, Red, 3"	0P-1150-0185	ST-2000, ST-2001
PanaView Arrow, Amber, 3"	0P-1150-0164	ST-2000, ST-2001
PanaView Colon, Red	0P-1230-0070	(poss. indicator)
PanaView Colon, Amber	0P-1230-0071	ST-2000, ST-2001
UniView Digit, 7" Red LED, 7-seg	0P-1230-0023	ST-2000, ST-2001
UniView Digit, 7" Red LED, 2-seg	0P-1230-0031	ST-2001
UniView Digit, 7" Amber LED, 7-seg	0P-1230-0024	ST-2000, ST-2001
UniView Digit, 7" Amber LED, 2-seg	0P-1230-0032	ST-2000
UniView B-Bonus Indicator & Arrow, Amber	0P-1230-0039	ST-2000, ST-2001
UniView 3 Position Indicator, Red & Amber	0P-1230-0038	ST-2000, ST-2001
UniView Colon, Amber	0P-1230-0069	ST-2000, ST-2001
Driver, Multicast, 16 Column	0P-1388-0100	ST-3001
Digit, 7" ColorSmart, Multicolor LED, 7-seg	0P-1388-0017	ST-3001
Digit, 7" ColorSmart, Multicolor LED, 2-seg	0P-1388-0029	ST-3001
Colon; Multicolor	0P-1388-0318	ST-3001
1 Position Indicator, Amber	0P-1388-0026	ST-3001
3 Position Indicator, Red & Amber	0P-1388-0027	ST-3001
All Sport Signal Cable; 10'	W-1340	All
Transformer, 120P/16S, 6.3 A	T-1066	All
Horn, 120V w/ Cap.	0A-1152-0332	All
Horn Interface Card	0P-1192-0399	All
Replacement Leg Stop Pad	HS-1763	All

(Continued on following page)

4 Column LED Driver II	0P-1150-0130	(light strip)
XLR Cable, M to F; 5'	W-1627	(light strip)

3.9 Daktronics Exchange and Repair & Return Programs

Exchange Program

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

Before Contacting Daktronics

Identify these important numbers:

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

To participate in the Exchange Program, follow these steps.

1. Call Daktronics Customer Service.

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

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

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

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

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

Repair & Return Program

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

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

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

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

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

Shipping Address

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

Daktronics Warranty and Limitation of Liability

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

Appendix A: Reference Drawings

Drawing Title	*Drawing Number*
Address Table, 1 Through 128	**A-115078**
Driver Tray – 16V LED w/ 2 Transformer	**A-158232**
Install Details; Indoor Radio/Wire Switch	**B-168045**
System Riser Diagram; Scores Table Setup	**A-210619**
Schematic; 4 Col DRVR, 16V Light Strip Control	**A-220172**
Driver Tray – 16V LED w/ one Transformer	**A-220183**
Driver Tray: MCAST – 16 Col and Horn Interface	**A-277976**
Specifications; Driver, MCAST, 16 Col	**A-284554**
Address Table 1; GEN IV Driver Address Dip Switch	**A-290261**
Digit Designation/Schem; ST-1000/1001/2000/2001	**C-381439**
Digit Designation/Schem; ST-3000	**C-381720**
Shop DWG; 2000 Series Scorer's Tables	**B-845254**
Installation Diagram; Indoor SCBD Gen VI Radio Receiver	**A-1109105**
Radio Receiver Installation for Scorer's Tables	**A-1117167**

KEY: 0 = WIRE NOT CONNECTED 1 = WIRE IS CONNECTED

DECIMAL ADDRESS	PIN 12	PIN 11	PIN 9	PIN 8	PIN 6	PIN 5	PIN 3	PIN 2
1	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	1	0
3	0	0	0	0	0	0	1	1
4	0	0	0	0	0	1	0	0
5	0	0	0	0	0	1	0	1
6	0	0	0	0	0	1	1	0
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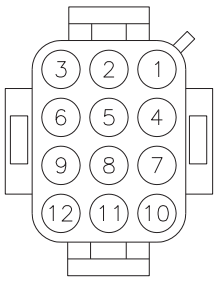
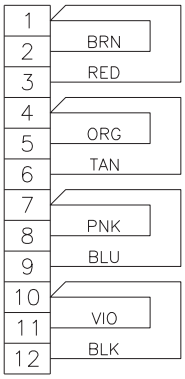
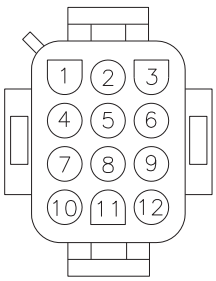


ADDRESS PLUG
WIRE SIDE

WIRING DIAGRAM

ADDRESS PLUG
WITH ALL WIRES
CONNECTED





BOTTOM VIEW

REV.	DATE	DESCRIPTION	BY	APPR.
01	08 MAR 05	ADDED BOTTOM VIEW	KQB	

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:

TITLE: ADDRESS TABLE, 1 THROUGH 128

DES. BY: AVB DRAWN BY: A VANBEMMEL DATE: 28 APR 99

REVISION 01 APPR. BY:

SCALE: NONE

1150-R04A-115078

REV	DATE:		BY:
06	21 APR 14	PER ECO-14033 ADDED FRENCH TRANSLATIONS TO LL-2422 CAUTION LABEL	JH
REV	DATE:		BY:
05	05 MAY 11	REPLACED HC-1123 W/ HC-1125 @9 PER ECO-65793	KDD
REV	DATE:		BY:
04	04 JUN 09	CHG HC-1109 TO HC-1364	KZB
REV	DATE:		BY:
03	08 JAN 09	REPLACED HC-1125 WITH HC-1123	KN
REV	DATE:		BY:
02	19 MAY 03	ADDED LL-2285 PER ECO 39326	RWD

REV	DATE:		BY:
01	15 JAN 02	ADDED TRANSFORMER STICKERS TO DRAWING	DVI

DAKTRONICS, INC.
BROOKINGS, SD 57006

DO NOT SCALE DRAWING

PROJ: INDOOR UNIFORM LED DIGIT

TITLE: DRIVER TRAY- 16V LED W/2 TRANSFORMER

DESIGN: BPETERSON | DRAWN: BPETERSON | DATE: 31OCT01

SCALE: 1=3

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE
	06	P1230	E-10-A

158232

0A-1230-0044

INSTALLATION STEPS:

1. TURN POWER OFF TO THE SCOREBOARD.

2. LOCATE THE PANEL ON THE SCOREBOARD THAT HAS THE DRIVER TRAY BEHIND IT AND OPEN. ATTACH SNAP TRACK TO BACKSHEET WITHIN 1' OF DRIVER USING THE DOUBLE SIDED TAPE PRE-INSTALLED ON BACK OF SNAP TRACK. SNAP WIRE/RADIO SWITCH CARD INTO SNAP TRACK JUST INSTALLED.

3. CONNECT POWER TO RADIO/WIRE SWITCH CARD.
   3.1 LOCATE 5 PIN PLUG (P45) THAT CONNECTS THE RADIO RECEIVER TO THE DRIVER TRAY.
   3.2 DISCONNECT THE RADIO RECEIVER.
   3.3 CONNECT POWER HARNESS INCLUDED WITH RADIO/WIRE SWITCH KIT TO THE 5 PIN JACK (J45) ON THE DRIVER TRAY.
   3.4 CONNECT THE 2 PIN END OF HARNESS JUST INSTALLED TO THE RADIO/WIRE SWITCH CARD J1 (POWER).

4. REROUTE SIGNAL INTO THE WIRE/RADIO SWITCH CARD JUST INSTALLED.
   4.1 USE A SCREWDRIVER TO LOOSEN THE SCREWS ON THE SIGNAL TERMINAL BLOCK ON THE DRIVER TRAY, TB31-1&2 (RED AND BLK WIRES). THESE ARE THE WIRES THAT COME FROM THE ¼" PHONE JACK ON THE OUTSIDE OF THE SCOREBOARD.
   4.2 MOVE WIRES JUST REMOVED FROM THE DRIVER TRAY TO THE SIGNAL IN TERMINAL BLOCK (TB1) ON THE RADIO/WIRE SWITCH CARD. RED IS CONNECT TO + AND BLACK IS CONNECTED TO -.
   4.3 INSTALL THE JUMPER WIRE INCLUDED WITH THE RADIO/WIRE SWITCH KIT FROM THE SIGNAL OUT TERMINAL BLOCK (TB2) ON THE RADIO/WIRE SWITCH CARD (RED +, BLACK -) TO THE DRIVER TRAY TB31 (RED TB31-1, BLACK TB31-2).

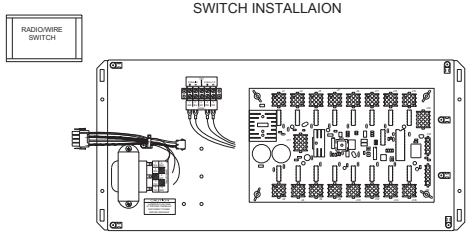
5. CONNECT 5 PIN PLUG (P45) FROM RADIO RECEIVER TO J2 (RADIO) ON THE WIRE/RADIO SWITCH CARD.

6. DOUBLE CHECK ALL CONNECTIONS TO BE SURE SYSTEM IS CONNECTED PROPERLY AND THAT ALL CONNECTIONS ARE TIGHT.

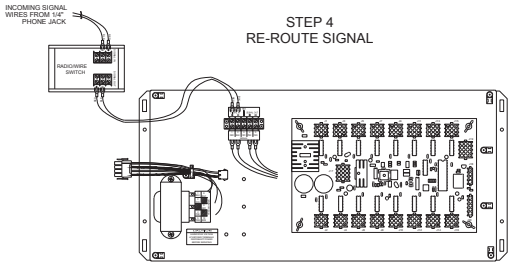
7. CLOSE SCOREBOARD PANEL.

8. TURN POWER BACK ON TO SCOREBOARD AND TEST.

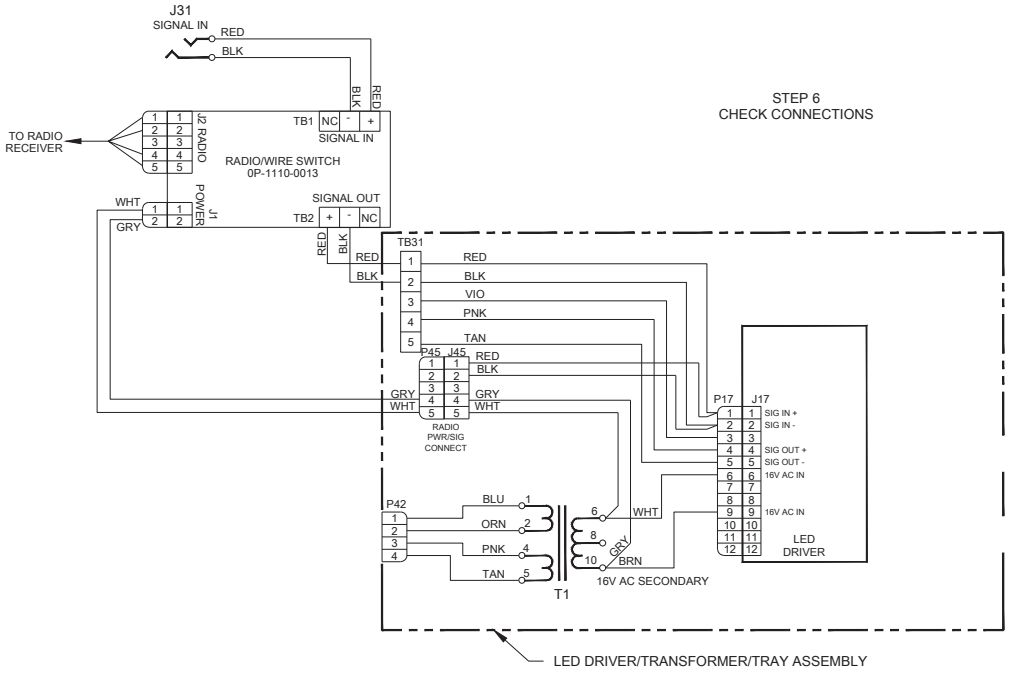
STEP 2
SWITCH INSTALLAION



STEP 4
RE-ROUTE SIGNAL



STEP 6
CHECK CONNECTIONS



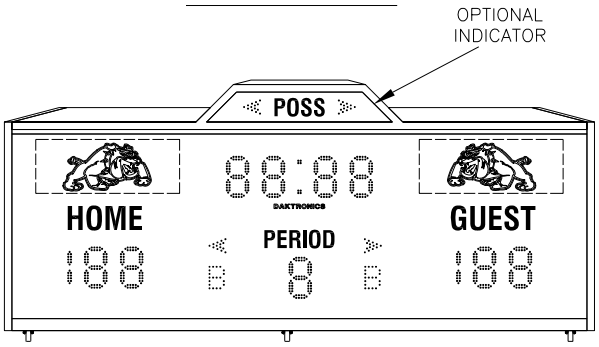
REV	DATE:		BY:
01	13 NOV 12	ADJUSTED WIRE CONNECTIONS TO SECONDARY SIDE OF 16VAC XNSFMR PER EC-8255.	SMB

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

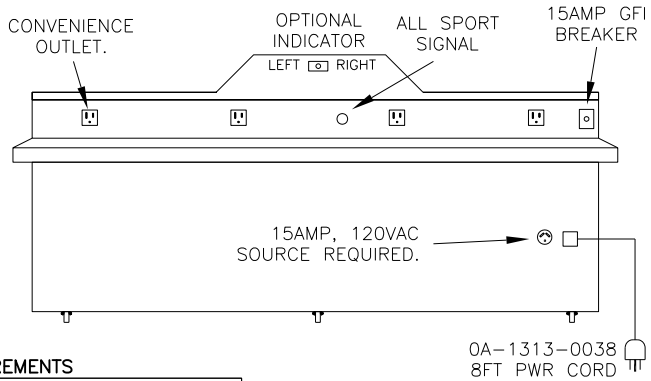
PROJ: STANDARD INDOOR LED SCOREBOARDS
TITLE: INSTALL DETAILS: INDOOR RADIO/WIRE SWITCH
DESIGN:
DRAWN: CBRECZI
DATE: 03 JUN 02
SCALE: 1=1

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
	01	1152	E - 01 - B	168045

FRONT VIEW



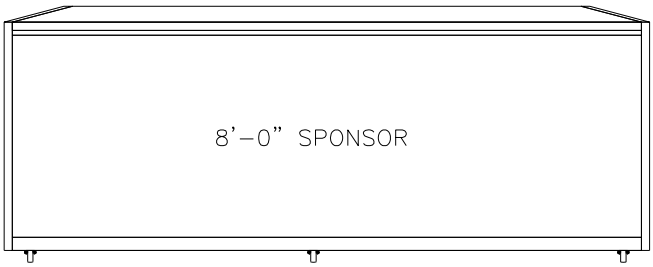
REAR VIEW

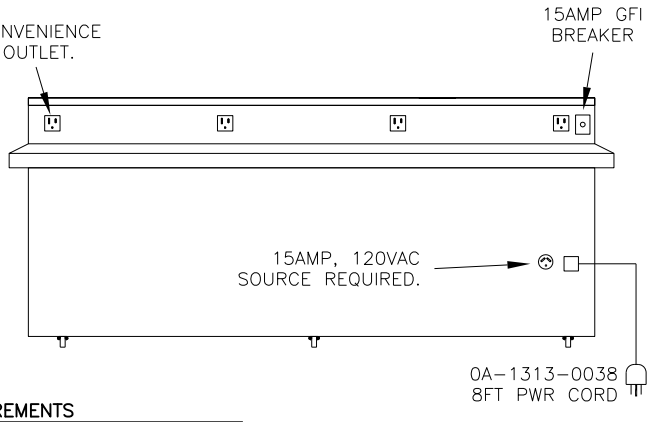


SCOREBOARD DIGIT POWER DRAW:
120V, 2.5A, 300W

TABLE POWER REQUIREMENTS

PRIMARY VOLTAGE:	120VAC, 2 WIRES+GND.
BRKR SIZE:	15AMP DEDICATED
AMPERES:	2.5A + UP TO 10AMP ON OUTLETS
TOTAL WATTS:	300W FOR DISPLAY + PRODUCT PLACED ON OUTLETS PER EVENT NEEDS.

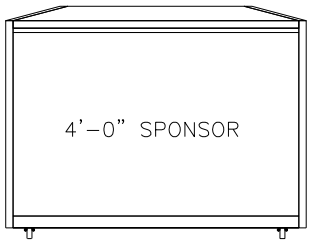


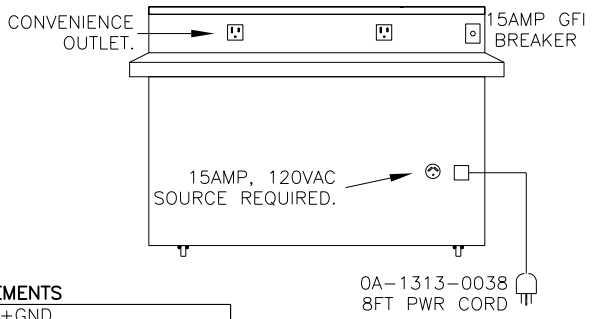


BACKLIT BALLAST POWER DRAW:
120V, 5.3A, 600W

TABLE POWER REQUIREMENTS

PRIMARY VOLTAGE:	120VAC, 2 WIRES+GND.
BRKR SIZE:	15AMP DEDICATED
AMPERES:	5.3A + UP TO 7AMP ON OUTLETS
TOTAL WATTS:	600W FOR DISPLAY + PRODUCT PLACED ON OUTLETS PER EVENT NEEDS.





BACKLIT BALLAST POWER DRAW:
120V, 2.5A, 300W

TABLE POWER REQUIREMENTS

PRIMARY VOLTAGE:	120VAC, 2 WIRES+GND.
BRKR SIZE:	15AMP DEDICATED
AMPERES:	2.5A + UP TO 10AMP ON OUTLETS
TOTAL WATTS:	300W FOR DISPLAY + PRODUCT PLACED ON OUTLETS PER EVENT NEEDS.

03	11 NOV 05	UPDATED AMPS FOR EACH SCORERS TABLE	JKU
02	18 MAY 05	CHANGED 4' SPONSOR FROM 3 RECEPTACLES TO 2.	ATP
01	21 DEC 04	ADDED POWER REQUIREMENTS	RT

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: MULTI-OPTION SCORES TABLE

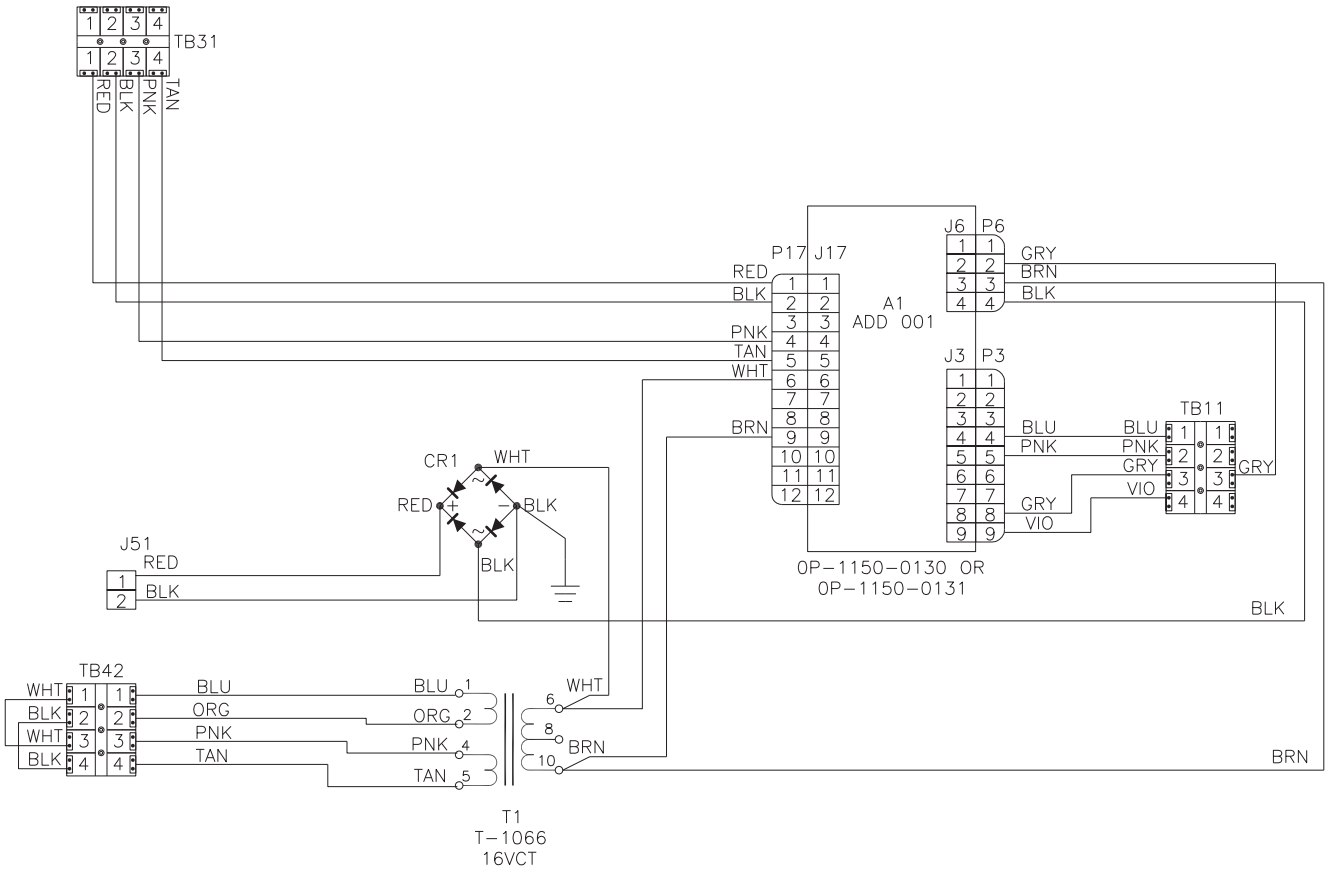
TITLE: SYSTEM RISER DIAGRAM: SCORES TABLE SETUP

DES. BY: MMILLER DRAWN BY: MMILLER DATE: 04 MAY 04

REVISION 05 | APPR. BY: | SCALE: NONE

1313-R01A-210619

REV.	DATE	DESCRIPTION	BY	APPR.
05	14 JAN 10	UPDATED PWR CORD DETAILS, POWER CHARTS AND OTHER TEXT BLOCKS.	MWM	
04	21 MAR 06	CHANGED MAX WATTAGE FROM 1800 TO 1440	JMF	



0A-1230-0152, DRIVER TRAY; 16V LIGHT STRIP CONTROL
0A-1230-0153, HARNESS; 4 COL. DRVR W/ LIGHT STRIP
ADD-003053

REV.	DATE	DESCRIPTION	BY	APPR.
03	31 DEC 09	ADDED GND LINE OFF OF CR1 -	MWM	
02	26 SEP 07	UPDATE HARNESS	KZB	
01	20 FEB 07	UPDATED DRIVER PART NUMBERS TO INCLUDE 0P-1150-0130	MWM	

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: SCORETABLE

TITLE: SCHEMATIC: 4COL DRVR- 16V LIGHT STRIP CONTROL

DES. BY: CBRECZI DRAWN BY: MWELLNER DATE: 02 AUG 04

REVISION 03

APPR. BY:

SCALE: NONE

1230-R03A-220172

REV	DATE:		BY:
13	30 APR 14	PER EC-14035 ADDED FRENCH TRANSLATIONS TO LL-2668 CAUTION LABEL ADDED NOTES	JH
12	16 SEPT 13	PER EC-11852 CHANGED 12V TO 16V	TTF
11	ZR	PER EC-4751 ADDED HE-1087, REMOVED HC-1243	12 APR 12
10	16 JUN 10	REMOVED OBSOLETE WIRING	KZB
09	07 JAN 10	ADDED WIRE & NUT (HC-1238) AT LOWER RIGHT CORNER OF TRAY AT CR-1024 LOCATION	LMIX
08	19 NOV 09	UPDATE SIGNAL "GAME" AND "SHOT" FOUR LABELS TO REVERSE WHAT WAS SHOWN AND PUT CURRENT AS LABEL IS MADE	LMIX

REV	DATE:		BY:
07	22 SEPT 09	UPDATED LABEL FOR TB-42	KDD
06	25 SEP 07	REVISED LAYOUT OF DRIVER FOR WAGO TERMINAL BLOCKS AND NEW LABELS.	KJB
05	17 APR 07	REPLACED 0A-1150-0115 WITH OP-1150-0130	WAD
04	13 OCT 06	REMOVED HC-1109 & HC-1243 ADDED LABEL LOCATIONS FROM LABEL LL2422 ADDED MISSING WIRE TO TB31	BDV
03	23 JUN 05	UPDATED LABELS ON TERMINAL BLOCKS PER ECO-047344	JLF
01	09 AUG 04	ADDED TB-1007 @1 AND LABEL FOR TB11	MDW

DAKTRONICS, INC.
BROOKINGS, SD 57006

DO NOT SCALE DRAWING

PROJ: INDOOR UNIFORM LED DIGIT

TITLE: DRIVER TRAY- 16V LED W/ ONE TRANSFORMER

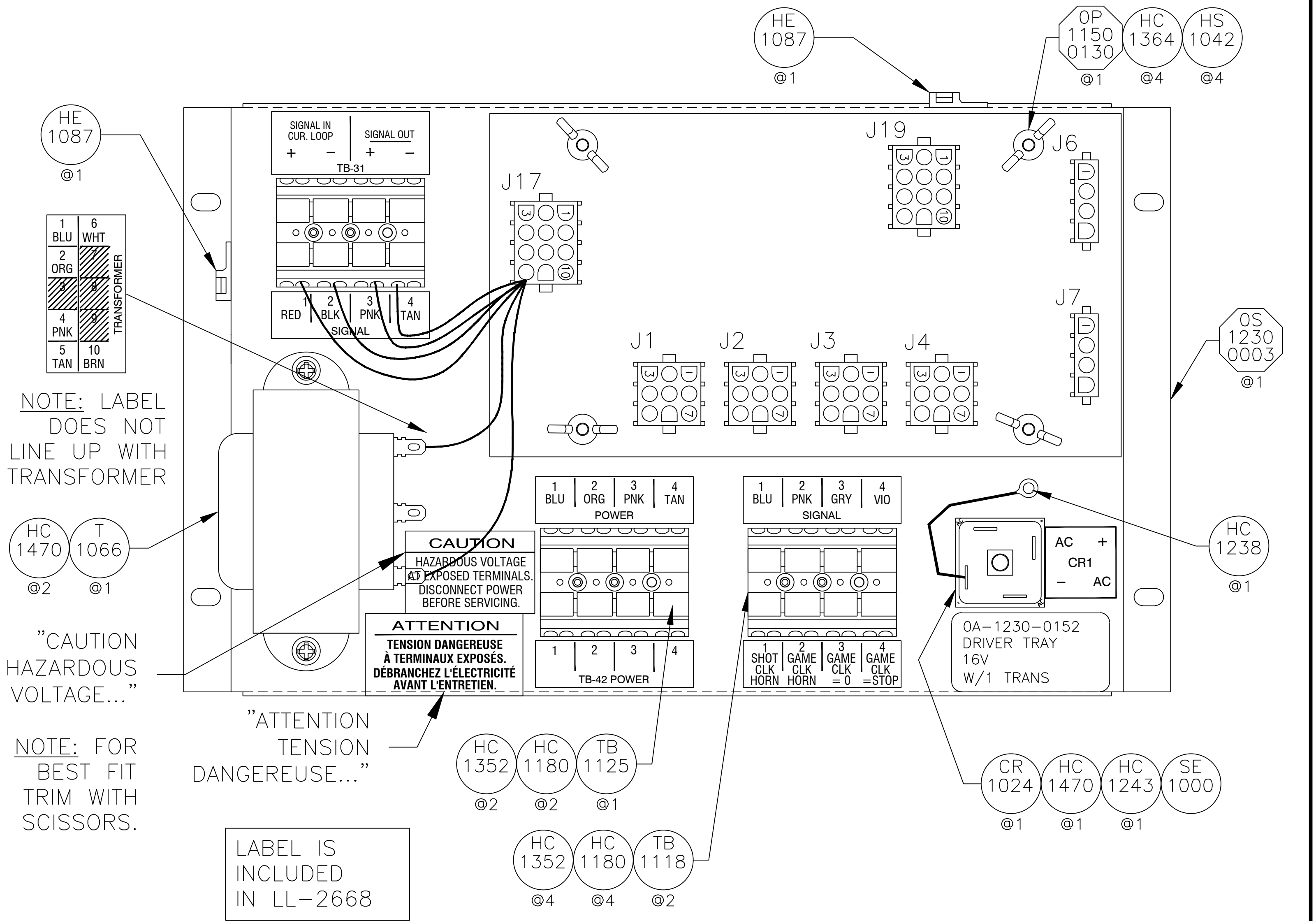
DESIGN: CBRECZI

DRAWN: MWELLNER

SCALE: 1=2

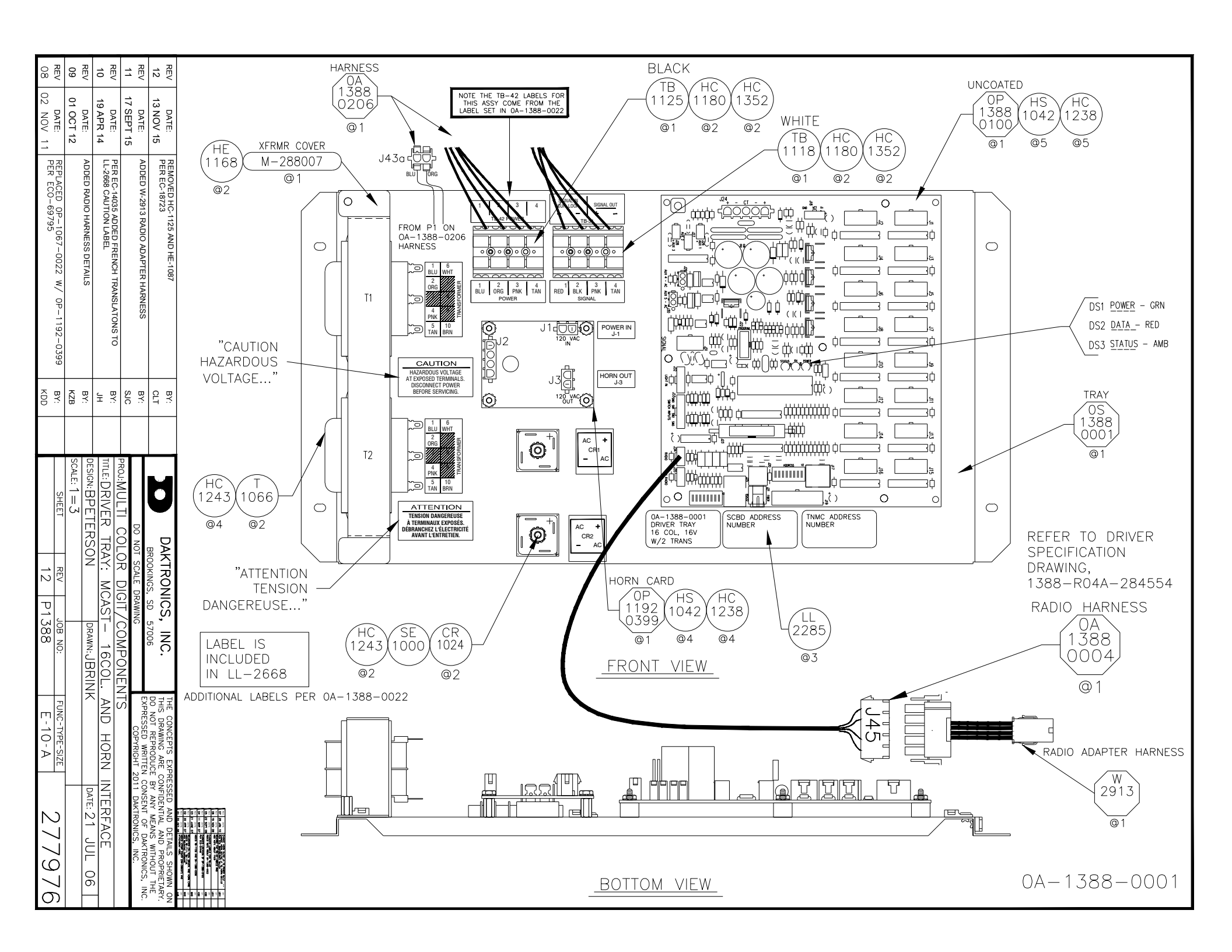
DATE: 02 AUG 04

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
	13	P1230	E - 07 - A	220183



ADDITIONAL LABELS PER 0A-1388-0022

0A-1230-0152



REV	DATE:	BY:	
12	13 NOV 15	CLT	REMOVED HC-1125 AND HE-1087 PER EC-18723
11	17 SEPT 15	SJC	ADDED W-2913 RADIO ADAPTER HARNESS
10	19 APR 14	JH	PER EC-14035 ADDED FRENCH TRANSLATONS TO LL-2668 CAUTION LABEL
09	01 OCT 12	KZB	ADDED RADIO HARNESS DETAILS
08	02 NOV 11	KDD	REPLACED 0P-1067-0022 W/ 0P-1192-0399 PER ECO-69795

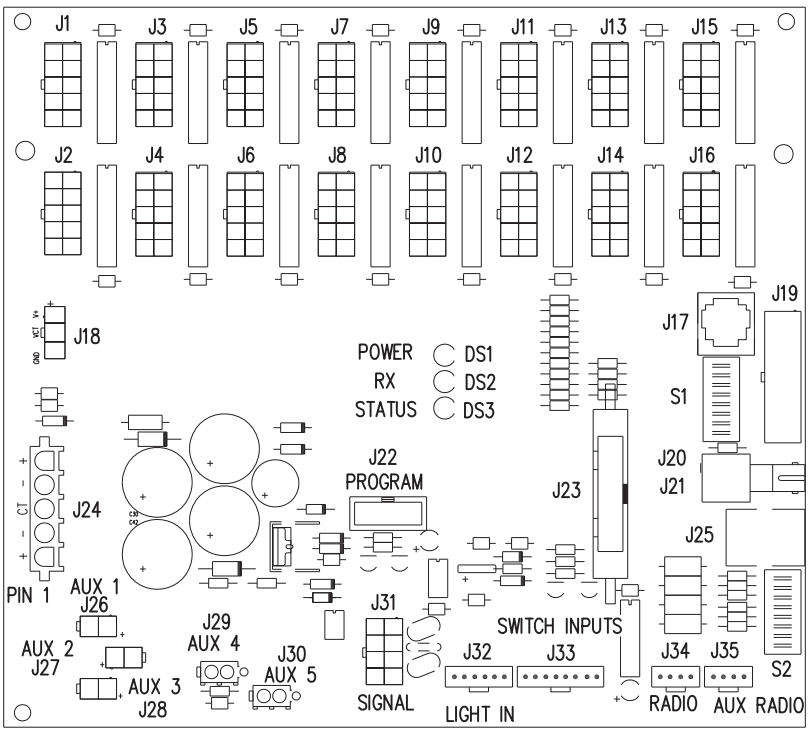
DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: MULTI COLOR DIGIT/COMPONENTS
TITLE: DRIVER TRAY: MCAST- 16COL. AND HORN INTERFACE
DESIGN: BPETERSON
DRAWN: JBRINK
DATE: 21 JUL 06
SCALE: 1=3
SHEET
REV: 12
JOB NO: P1388
FUNC-TYPE-SIZE: E-10-A

277976

COLOR SMART DRIVER

OP-1388-0100



J1-16 DIGITS

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

J18 PWR OUT

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

J24 POWER IN

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

J22 PROGRAM JACK

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

S1 - DIP SWITCH FOR MAIN ADDRESS

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8

UP TO 127 ADDRESS

SW8 - T.O.D. ON ENABLED

J20 OR J21 - FIBER RX

J23 TEAM NAME OUTPUT

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

S2 - DIP SWITCH FOR TNMC ADDRESS

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8

0 TO 15 ADDRESS SPARES

SW5 - HOME OR GUEST SELECT
OFF = HOME
ON = GUEST

J26-28 (AUX 1 - 3)

PIN	FUNCTION
1	20VDC
2	SWTCHED-N

LOW CURRENT CONNECTION (200MA)

J29,30 (AUX 4 & 5)

PIN	FUNCTION
1	SWITCHING IN
2	SWITCHING OUT

SECONDARY TXFMR AC VOLTAGES TYPICAL. (1.5AMP)

J31 SIGNAL

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

J32 LIGHT SENSOR

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

J33 SW INPUTS

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

J34 RADIO (MAIN)

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

J35 RADIO (AUX)

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

NOTES:

-GREEN LED DS1 INDICATES THAT THE DRIVER HAS POWER.

-RED LED DS2 WILL FLICKER WHEN THE DRIVER RECEIVES SIGNAL.

-AMBER LED DS3 WILL BLINK WHEN THE DRIVER IS RUNNING.

-IF DS3 IS ON OR OFF CONTINUOUSLY THE MICROCONTROLLER IS NOT WORKING.

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

ADDRESS JACK (J19) A-284771

ADDRESS SWITCH (S1) A-284772

TNMC ADD SWITCH (S2) A-284773

NOT USED/NOT LOADED ON SOME MODELS

J17 TPIC OUT

PIN	FUNCTION
1	+5V-P
2	SDO-P
3	CLK-P
4	STROBE-P
5	/OE-P
6	REDE_GRNO
7	REDO_GRNE
8	GND-N

J25 RS422

PIN	FUNCTION
1	N/C
2	N/C
3	CME_A
4	CME_B
5	CME_Z
6	CME_Y
7	GND-N
8	+5V-P

J19 WIRED ADDRESS JACK

FUNCTION	PIN	PIN	FUNCTION
GND-N	9	1	ADD0-N
GND-N	10	2	ADD1-N
GND-N	11	3	ADD2-N
GND-N	12	4	ADD3-N
GND-N	13	5	ADD4-N
GND-N	14	6	ADD5-N
GND-N	15	7	ADD6-N
GND-N	16	8	TOD

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ:

TITLE: SPECIFICATIONS; DRIVER, MCAST, 16 COL

DES. BY: DRAWN BY: DULSCHM DATE: 11 SEP 06

REV.	DATE	DESCRIPTION	BY	APPR.

REVISION 00

APPR. BY:

SCALE: 1 = 2

1388-R04A-284554

DIP SWITCH ADDRESS SETTING

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

DIP SWITCH ADDRESS SETTING

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

DIP SWITCH ADDRESS SETTING

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

DIP SWITCH ADDRESS SETTING

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

DIP SWITCH ADDRESS SETTING

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

DIP SWITCH ADDRESS SETTING

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

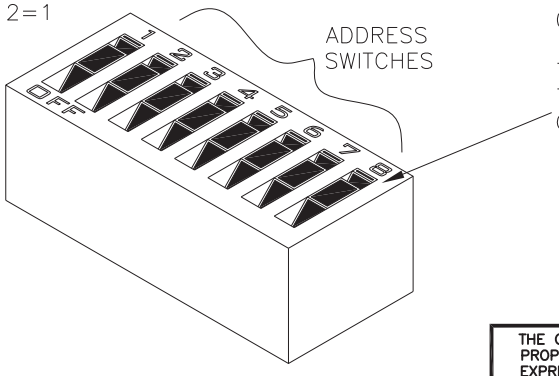
DIP SWITCH ADDRESS SETTING

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

DIP SWITCH ADDRESS SETTING

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

S1–ADDRESS DIP SWITCH
SCALE 2=1



NOTES:

0 = OFF, 1 = ON.

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

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: OUTDOOR LED SCOREBOARDS

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

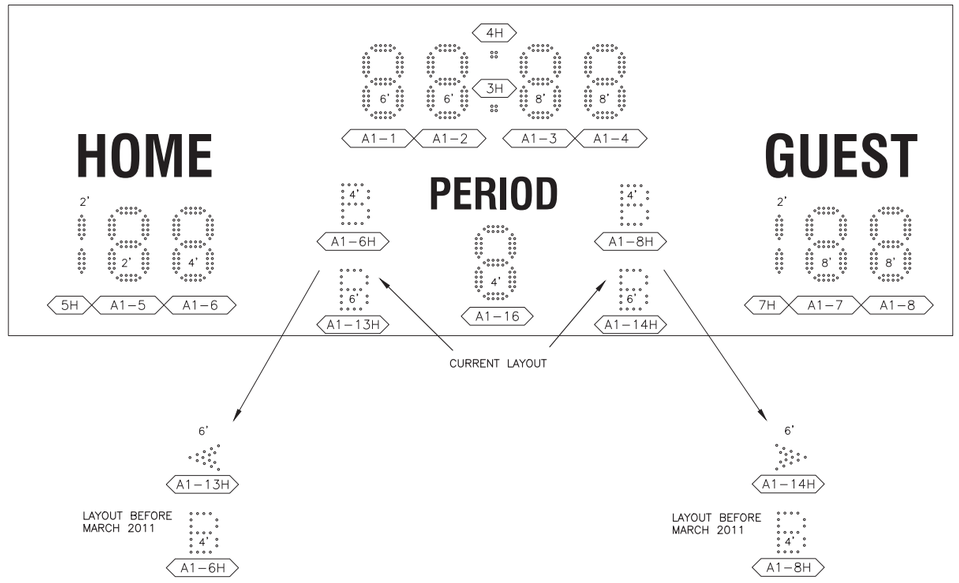
DES. BY: MMILLER DRAWN BY: MMILLER DATE: 16 NOV 06

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

1192-R10A-290261

REV.	DATE	DESCRIPTION	BY	APPR.

DO NOT USE DRAWING FOR PLACEMENT OF CAPTIONS



POWER & SIGNAL HARNESS REQUIRED:

0A-1313-0124 4' PWR & FUSE TERMINALS @ 1
0A-1150-0043 8' SIGNAL HARNESS @ 1
0A-1230-0110 HARNESS; 3' GROUND WIRE W/LUGS @ 1
0A-1313-0111 HARNESS; PWR TO BREAKER WITH MNL @ 1
0A-1313-0108 HARNESS; 120VAC, 2 PIN Y MNL @ 4
0A-1313-0107 ST-XXXX OUTLET W/ MNL @ 4

DIGIT HARNESS REQUIRED:

0A-1230-0030 2' DIGIT HARNESS @ 1
0A-1230-0031 4' DIGIT HANRESS @ 2
0A-1230-0032 6' DIGIT HARNESS @ 2
0A-1230-0033 8' DIGIT HARNESS @ 4
0A-1230-0127 4' SINGLE BONUS IND. HARN. @ 2
0A-1313-0043 6' DOUBLE BONUS IND. HARN. @ 2

OTHER PARTS REQUIRED:

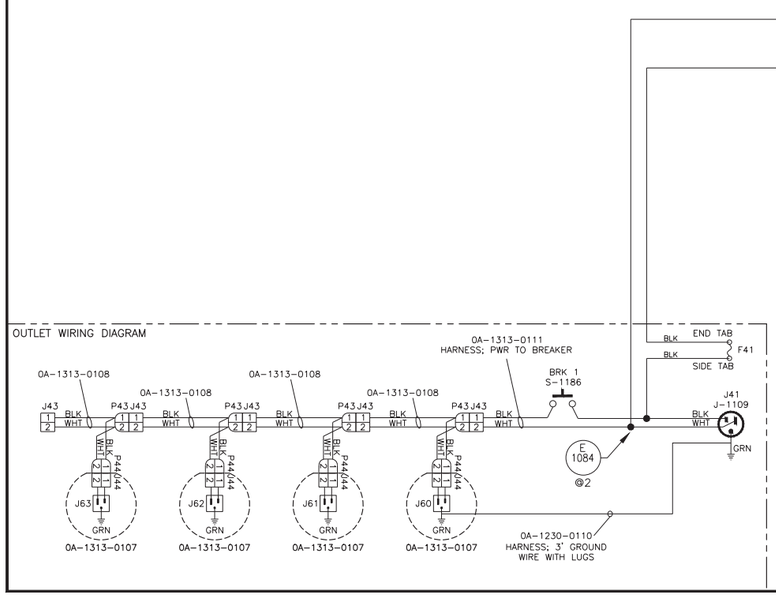
0A-1230-0044 16 DRIVER ASSY @ 1
0A-1150-0064 ADDRESS PLUG @ 1
J-1109 POWER INLET @ 1
S-1186 PUSH BUTTON 15AMP BREAKER @ 1

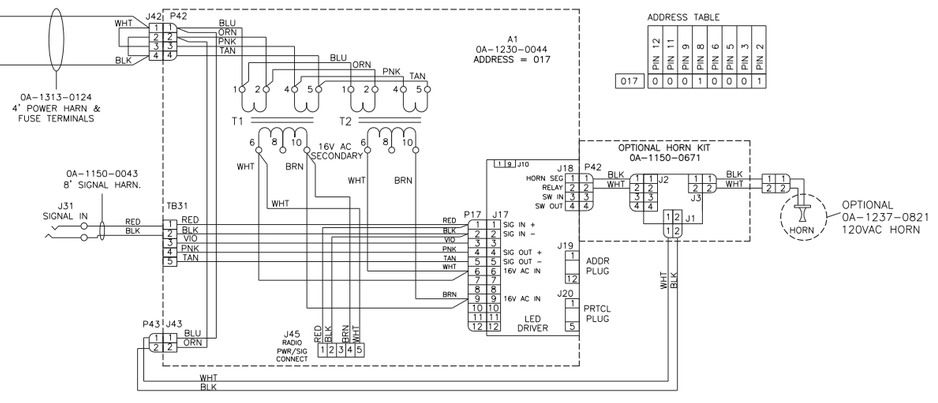
OPTIONAL PARTS:

0A-1150-0671 HORN KIT @1

SYSTEM OPERATION REQUIRMENTS

SYSTEM CONTROL CONSOLE CONSOLE	A/S 5010
DISPLAY F ASSY DWG	A/S 5010
SYSTEM VOLTAGE	120VAC
HIGH LEG (AMPS)	12
MAXIMUM WATTS	1,440
SPORT INSERT #	LL-2433
OPERATING CODE #	1103





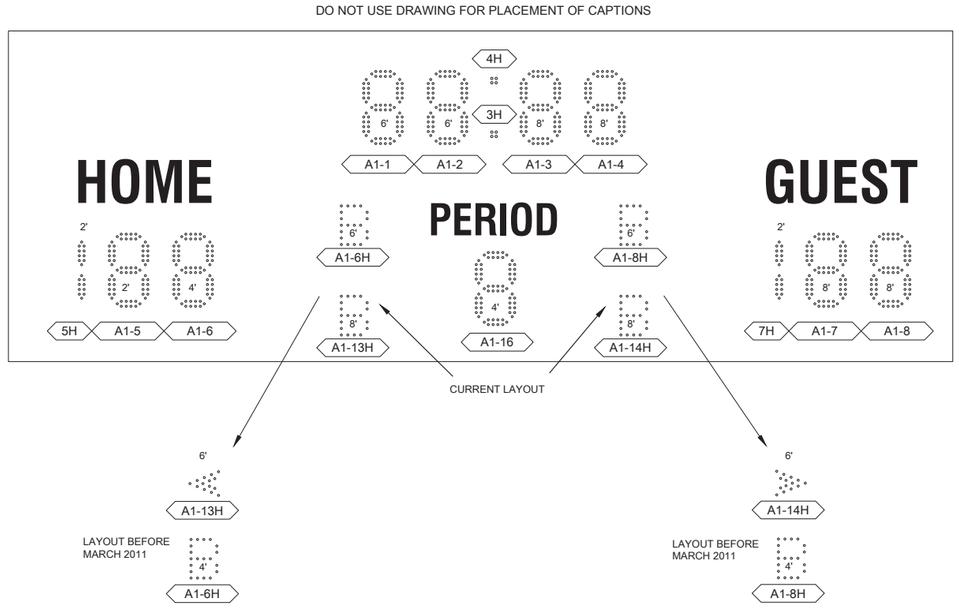
REV	DATE:		BY:
04	25 AUG 11	UPDATED SCOREBOARD DRAWING TO SHOW FORMER AND CURRENT LAYOUT OF THE BONUS PANELS	JJL
03	10 MAY 10	REMOVED 0A-1150-0071 POWER IN HARN, AND REPLACED IT WITH 0A-1313-0124	MWW
02	26 JAN 10	REMOVED LIGHT STRIP OPTION SETUP DETAILS	EJS
01	04 SEP 09	MADE UPDATES TO HORN DETAILS. SUGGESTIONS PER ECO 65847	MWW

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

PROJ: MULTI-OPTION SCORES TABLE
TITLE: DIGIT DESIGNATION/SCHEM: ST-1000/1001/2000/20001
DESIGN: KBIERBA | DRAWN: KBIERBA | DATE: 28 MAR 08
SCALE: NONE

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
	04	P1313	R-03-C	381439

DO NOT USE DRAWING FOR PLACEMENT OF CAPTIONS



POWER & SIGNAL HARNESS REQUIRED:

0A-1313-0124 4' PWR & FUSE TERMINALS @ 1
0A-1230-0110 HARNESS; 3' GROUND WIRE W/LUGS @ 1
0A-1313-0111 HARNESS; PWR TO BREAKER @ 1
0A-1313-0108 HARNESS; PWR Y MNL @ 4
0A-1313-0107 OUTLET WITH MNL @ 4

DIGIT HARNESS REQUIRED:

0A-1388-0100, 4' DIGIT HARNESS @ 4
0A-1388-0101, 6' DIGIT HARNESS @ 2
0A-1388-0102, 8' DIGIT HARNESS @ 4
0A-1388-0201, 4' SINGLE BONUS IND. HARN. @ 2
0A-1388-0213, 8' DOUBLE BONUS IND. HARN. @ 2

OTHER PARTS REQUIRED:

0A-1388-0001, 16 COL SMART COLOR DRIVER ASSY @ 1
J-1109 POWER INLET @ 1
S-1186 PUSH BUTTON 15AMP BREAKER @ 1

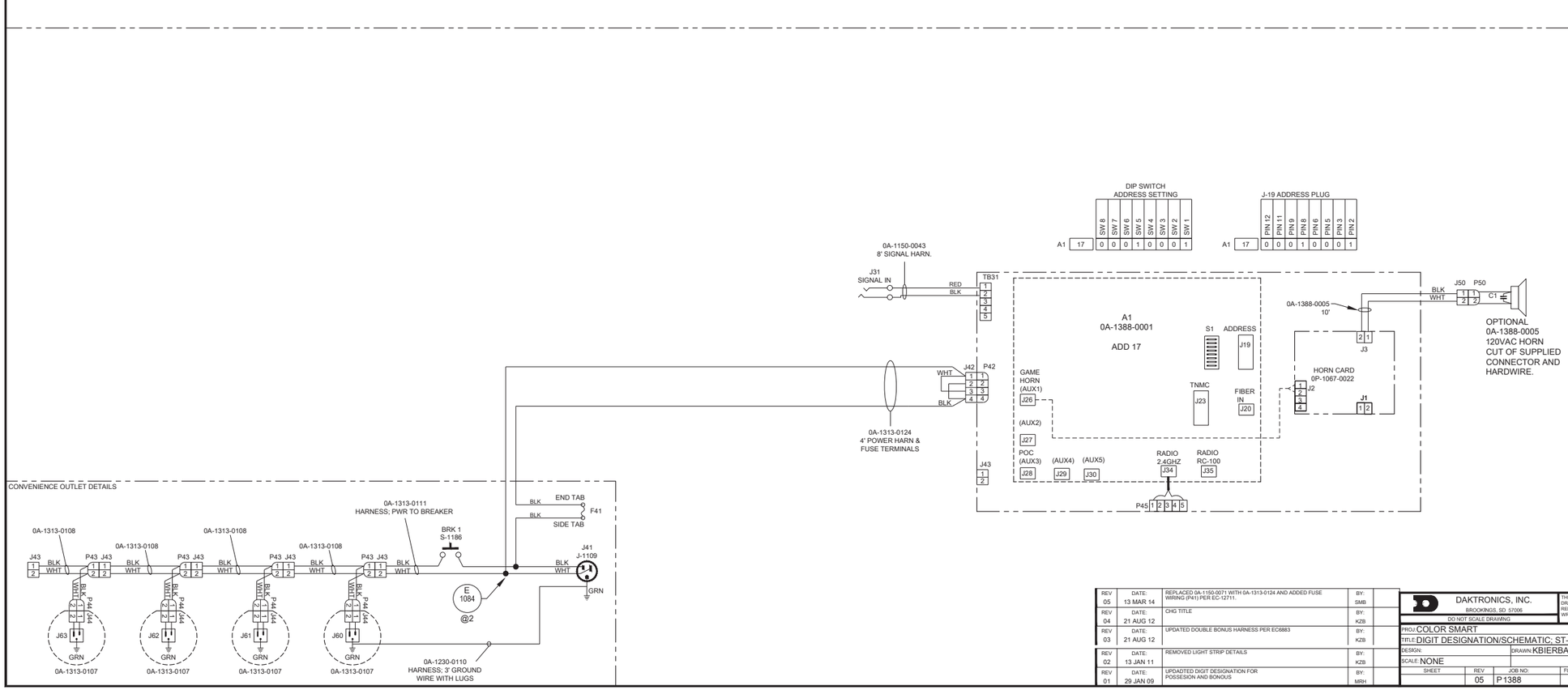
OPTIONAL PARTS:

0A-1388-0005 HORN HARNESS KIT @ 1
0A-1388-0020 MCP LIGHT STRIP KIT @ 1
0A-1150-0043 8' SIGNAL HARNESS @ 1
0A-1150-0072 6' POWER HARNESS @ 1

0A-1313-0109 EOP OUT @ 1
0A-1313-0110 EOP IN @ 1

SYSTEM OPERATION REQUIRMENTS

SYSTEM CONTROL CONSOLE CONSOLE	A/S 5500
DISPLAY F ASSY DWG	#####
SYSTEM VOLTAGE	120VAC
HIGH LEG (AMPS)	12
MAXIMUM WATTS	1,440
SPORT INSERT #	LL-2433
OPERATING CODE #	1103

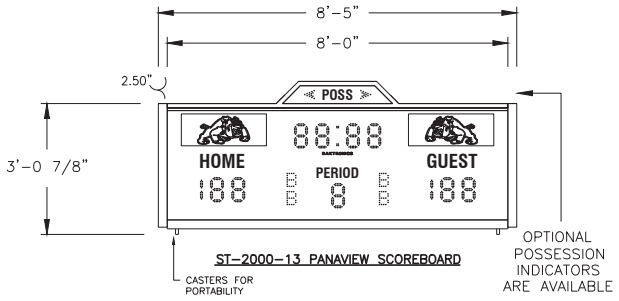


REV	DATE:		BY:
05	13 MAR 14	REPLACED 0A-1150-0071 WITH 0A-1313-0124 AND ADDED FUSE WIRING (PA1) PER EC-12711.	SMB
04	21 AUG 12	CHG TITLE	KZB
03	21 AUG 12	UPDATED DOUBLE BONUS HARNESS PER EC6883	KZB
02	13 JAN 11	REMOVED LIGHT STRIP DETAILS	KZB
01	29 JAN 09	UPDADTED DIGIT DESIGNATION FOR POSSESION AND BONOUS	MRH

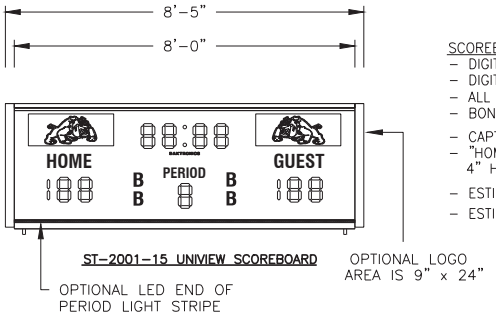
DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: COLOR SMART
TITLE: DIGIT DESIGNATION/SCHEMATIC; ST-30XX
DESIGN: DRAWN: KBIERBA DATE: 31 MAR 08
SCALE: NONE

SHEET	REV	JOB NO:	FUNC.-TYPE-SIZE	
	05	P1388	E - 01 - C	381720

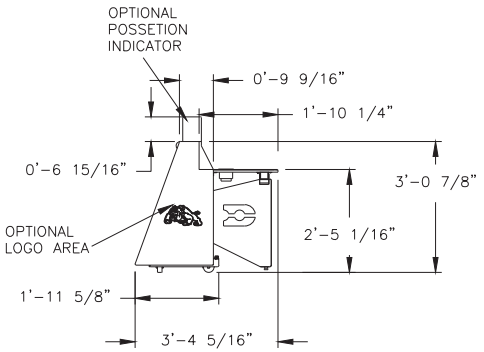


ST-2000-13 PANAVIEW SCOREBOARD

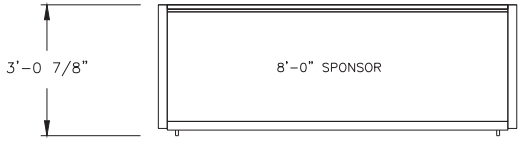


ST-2001-15 UNIVIEW SCOREBOARD

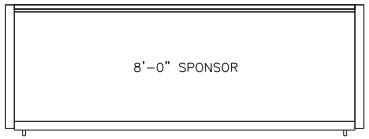
SCOREBOARD DISPLAY:
- DIGITS:
- DIGITS ARE 7" HIGH, 7 LED SEGMENTS EACH
- ALL DIGITS ILLUMINATED AMBER
- BONUS INDICATORS ILLUMINATE AMBER
- CAPTIONS:
- "HOME" & "GUEST" CAPTIONS ARE 4" HIGH, VINYL
- ESTIMATED POWER DEMAND: 1,440 WATTS
- ESTIMATED WEIGHT: 235 lbs



SIDE VIEW

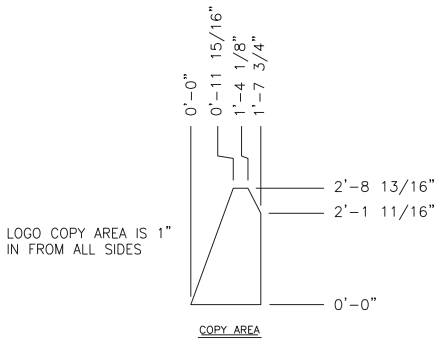


ST-2002 NON-BACKLIT SPONSOR

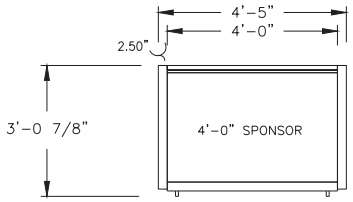


ST-2003 BACKLIT SPONSOR

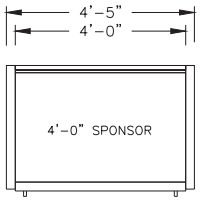
SPONSOR DISPLAYS:
- COPY AREAS ARE APPROX. 2'-6" HIGH x 8'-0" WIDE
- DISPLAY FACES ARE AVAILABLE IN NON-BACKLIT OR BACKLIT MODELS
- ESTIMATED POWER DEMAND: 1,440 WATTS
- ESTIMATED WEIGHT: 185 lbs (NON-BACKLIT)
- ESTIMATED WEIGHT: 235 lbs (BACKLIT)



COPY AREA



ST-2004 NON-BACKLIT SPONSOR



ST-2005 BACKLIT SPONSOR

SPONSOR DISPLAYS:
- COPY AREAS ARE APPROX. 2'-6" HIGH x 4'-0" WIDE
- DISPLAY FACES ARE AVAILABLE IN NON-BACKLIT OR BACKLIT MODELS
- ESTIMATED POWER DEMAND: 1,440 WATTS
- ESTIMATED WEIGHT: 90 lbs (NON-BACKLIT)
- ESTIMATED WEIGHT: 115 lbs (BACKLIT)

GENERAL DISPLAY:
- SINGLE FACE DISPLAY
- ALL ALUMINUM CONSTRUCTION
- PADDING COLOR TO BE SPECIFIED
- DIMENSIONS ARE SUBJECT TO CHANGE DUE TO DETAILED DESIGN CONSIDERATIONS/ONLY APPROVED SHOP DRAWINGS SHOULD BE USED FOR CONSTRUCTION PURPOSES

REV	DATE:		BY:
03	10 MAR 14	REMOVED FLAT BLACK PAINT COLOR NOTE REMOVED ST-2014 SCORER'S TABLE	DRO
02	29 MAR 11	UPDATED SINGLE BONUS POSS. INDICATORS.	KDD
01	01 AUG 09	FIXED COPY AREA VIEW	BCD

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

PROJ: HEAD SCORER'S TABLE OPTIONS
TITLE: SHOP DWG; 2000 SERIES SCORER'S TABLES
DESIGN: | DRAWN: JLUEDER | DATE: 19 MAY 09
SCALE: 1:35

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
	03	P1313	P-08-B	845254

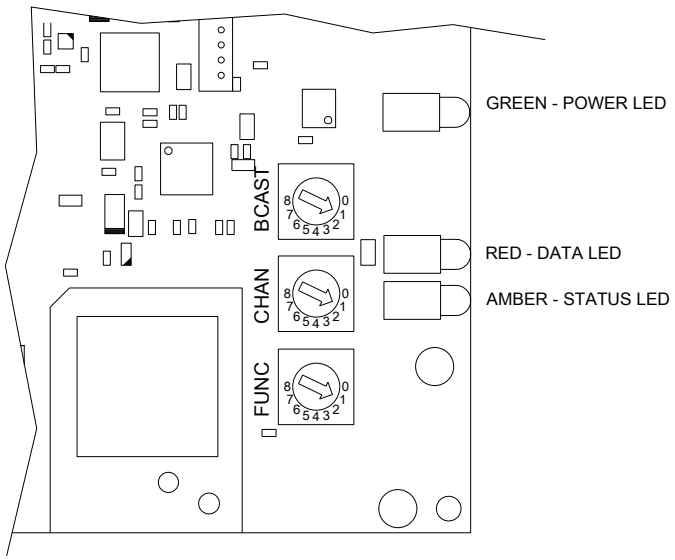
INDOOR SCOREBOARDS ONLY

RADIO PREPARATION

- RADIO SETTING FROM FACTORY IS F=1, B=1, C=1. IF THIS SETTING IS FINE FOR YOUR FACILITY LAYOUT, INSTALL RADIO INTO DISPLAY.

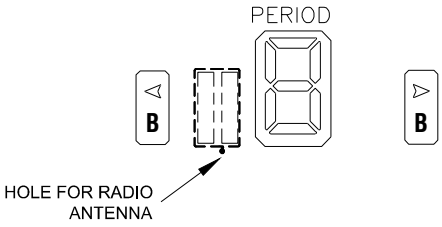
OR

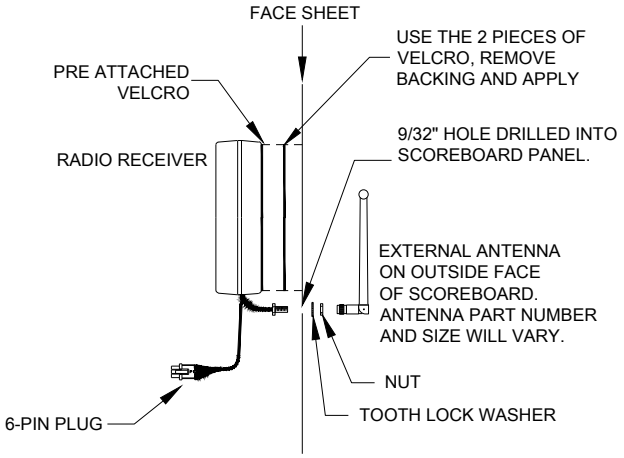
OPEN RADIO CASE BY REMOVING 4 PHILIPS HEAD SCREWS.
ALWAYS LEAVE FUNCTION = 1, BUT CHANGE THE CHANNEL AND BCAST DIALS AS NEEDED. USE SMALL FLAT HEAD SCREW DRIVER.



MOUNTING RADIO RECEIVER IN MOST INDOOR SCOREBOARDS.
SEE DWG-1130990 FOR RADIO RECEIVER MOUNTING IN SCOREBOARDS MADE AFTER MARCH 2013

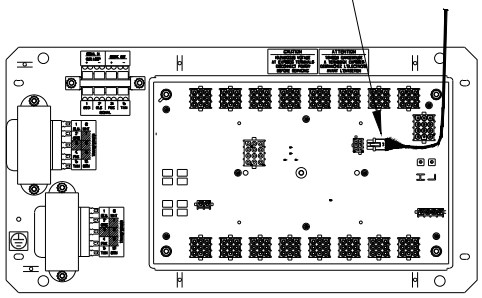
ADD RADIO NEXT TO PERIOD DIGIT WHERE POSSIBLE.





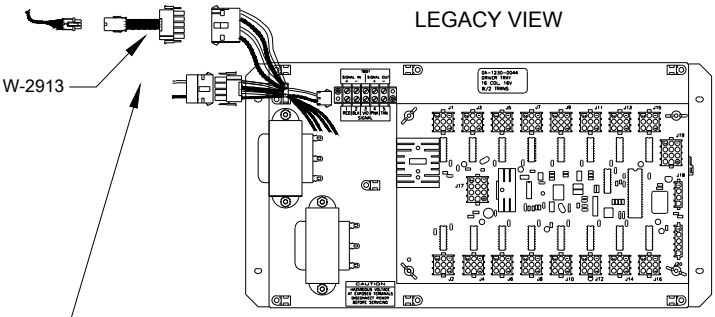
PLUG THE 6-PIN MALE PLUG FROM THE RADIO RECEIVER INTO THE MATING 6-PIN JACK (J21) ON THE DRIVER PCB AS SHOWN

NOTE:
LOCATE DRIVER TRAY, TYPICALLY BEHIND HOME SCORE OR THE CLOCK, LOCATION MAY VARY BETWEEN SCOREBOARD MODELS

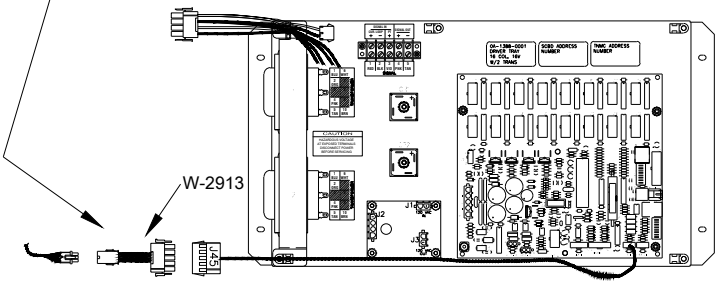


GYRUS VIEW

LEGACY VIEW



COLOR SMART DRIVER



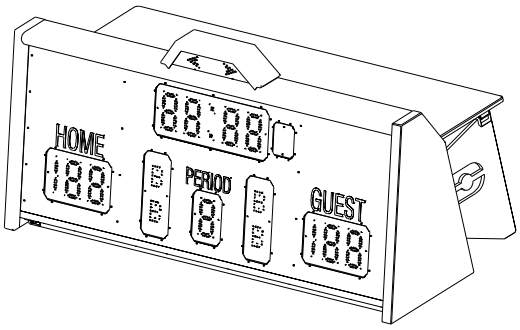
PLUG THE 6-PIN MALE PLUG FROM THE RADIO RECEIVER INTO THE MATING 6-PIN JACK OF THE ADAPTOR HARNESS (W-2913). PLUG THE MALE 5-PIN END OF THE ADAPTER HARNESS INTO THE MATING 5-PIN CONNECTOR (J45) COMING FROM THE DRIVER.

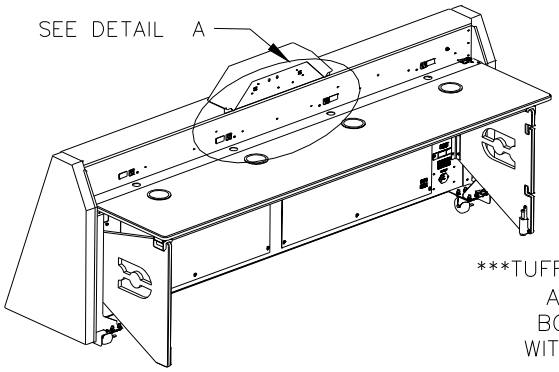
REV	DATE:		BY:	
04	15 JAN 15	ROTATED GYRUS DRIVER 180 DEGREES	MTR	
03	17 FEB 15	ADDED NEW GYRUS TRAYS VIEW SWAPPED PLUG FROM RADIO WITH W-2909 ADDED W-2913 CONNECTOR BETWEEN W-2909 & J45	BJG	
02	28 MAR 14	PER EC-13907, ADDED INDOOR SCBD ONLY NOTE	KDD	
01	10 JUL 13	ADDED REFERENCE TO RADIO RECIEVER MOUNTING DRAWING 1130990	KCS	

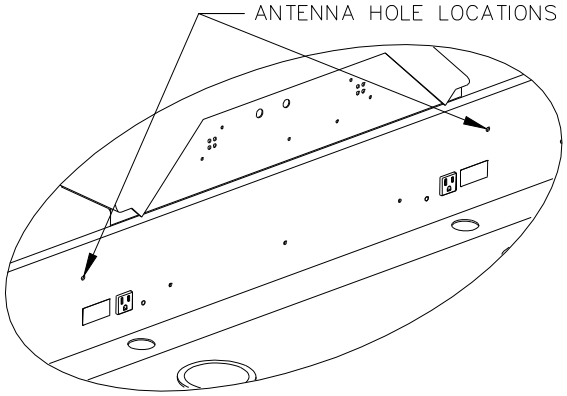
DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: ALL SPORT RADIO
TITLE: INSTALLATION DIAGRAM; INDOOR SCBD GEN VI RADIO RECEIVER
DESIGN: MMILLER | DRAWN: MMILLER | DATE: 07 AUG 12
SCALE: NONE

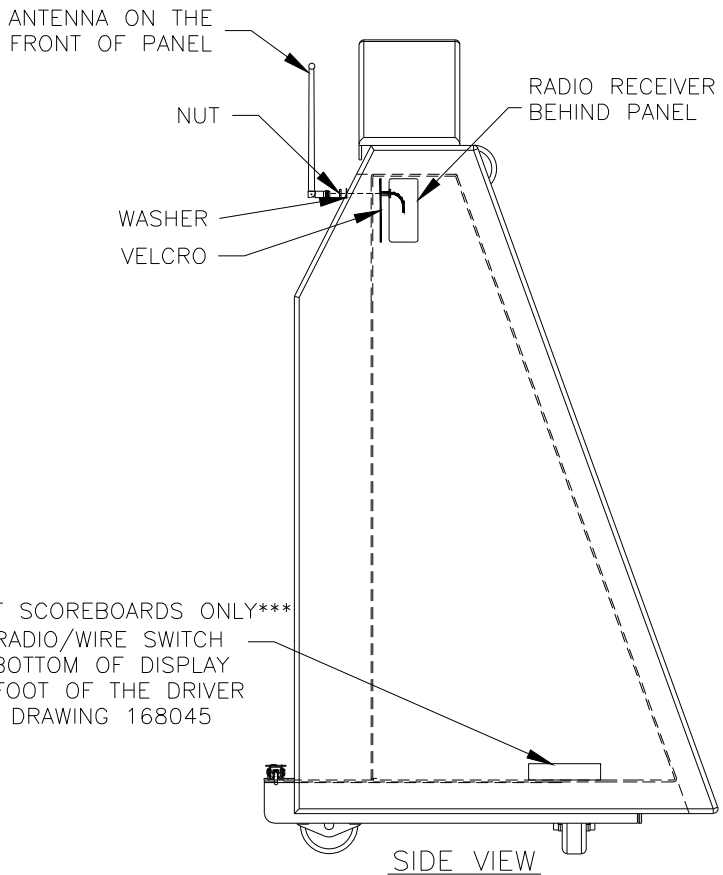
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
	04	P1110	F - 01 - A	1109105







DETAIL A
SCALE 1/10



SIDE VIEW
RECEIVER AND ANTENNA

RADIO INSTALLATION

1. SET THE CHANNEL NUMBER ON THE RECEIVER AS SHOWN ON DRAWING 1109105.

2. POSITION THE RECEIVER INSIDE THE SCOREBOARD, ALLOWING THE ANTENNA CONNECTOR TO PROTRUDE THROUGH THE HOLE. INSTALL THE ANTENNA. REMOVE THE BACKING FROM THE ADHESIVE ON THE VELCRO STRIPS AND STICK THE RECEIVER ONTO THE BACK SIDE OF THE PANEL.

PRODUCT TYPE:

COLOR SMART TABLES

-REFER TO DRAWING 1109105. THE RADIO CONNECTS DIRECTLY TO DRIVER HARNESS AS SHOWN IN COLOR SMART DETAIL ON DRAWING 1109105. THE COLOR SMART DRIVER CAN AUTO SWITCH BETWEEN THE WIRED SIGNAL OR RADIO SIGNAL.

TUFF SPORT TABLES

-REFER TO DRAWING 168045 IF BOTH THE RADIO AND HARD WIRE CONNECTIONS ARE NEEDED USING THE RADIO/WIRE KIT.
-REFER TO DRAWING 1109105 IF ONLY THE RADIO CONNECTIONS ARE NEEDED.

NOTES:

1. POSITION OF ANTENNA CAN BE PLACED INTO ANY OF THE TWO HOLES SHOWN ABOVE. PLACE THE ANTENNA WITHIN LINE OF SIGHT OF THE ALLSPORT CONSOLE.

2. IF THE ALLSPORT CONSOLE IS WITHIN 12FT OF THE SCOREBOARD THEN THE ALLSPORT CONSOLE NEEDS TO BE HARD WIRED.

DAKTRONICS, INC. BROOKINGS, SD 57006				THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2012 DAKTRONICS, INC.
DO NOT SCALE DRAWING				
PROJ: SCORES TABLES				
TITLE: RADIO RECIEVER INSTALLATION FOR SCORES TABLES				
DESIGN: JVANAAR		DRAWN: JVANAAR		DATE: 25 OCT 12
SCALE: 1/35				
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	1117167
	00	P1313	E-10-A	

Appendix B: Daktronics Warranty and Limitation of Liability

DAKTRONICS

WARRANTY AND LIMITATION OF LIABILITY

This Warranty and Limitation of Liability (the "Warranty") sets forth the warranty provided by Daktronics with respect to the Equipment. By accepting delivery of the Equipment, Purchaser agrees to be bound by and accept these terms and conditions. Unless otherwise defined herein, all terms within the Warranty shall have the same meaning and definition as provided elsewhere in the Agreement.

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

1. **Warranty Coverage**

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

"Substantial Completion" means the operational availability of the Equipment to the Purchaser in accordance with the Equipment's specifications, without regard to punch-list items, or other non-substantial items which do not affect the operation of the Equipment.

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

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

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

E. Defects shall be defined as follows. With regard to the Equipment (excepting LEDs), a "Defect" shall refer to a material variance from the design specifications that prohibit the Equipment from operating for its intended use. With respect to LEDs, "Defects" are defined as LED pixels that cease to emit light. The limited warranty provided by Daktronics does not impose any duty or liability upon Daktronics for partial LED pixel degradation nor does the limited warranty provide for the replacement or installation of communication methods including but not limited to, wire, fiber optic cable, conduit, trenching, or for the purpose of overcoming local site interference radio equipment substitutions.

EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS WARRANTY, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, DAKTRONICS DISCLAIMS ANY AND ALL OTHER PROMISES, REPRESENTATIONS AND WARRANTIES APPLICABLE TO THE EQUIPMENT AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACTY OR QUALITY OF DATA. NO ORAL OR WRITTEN INFORMATION, OR ADVICE GIVEN BY THE COMPANY, ITS AGENTS OR EMPLOYEES, SHALL CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS LIMITED WARRANTY.

THIS LIMITED WARRANTY IS NOT TRANSFERABLE.

2. Exclusion from Warranty Coverage

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

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

B. Any damage caused by the improper installation, adjustment, repair or service of the Equipment by anyone other than personnel of Daktronics or its authorized repair agents;

C. Damage caused by the failure to provide a continuously suitable environment, including, but not limited to: (i) neglect or misuse, (ii) a failure or sudden surge of electrical power, (iii) improper air conditioning, humidity control, or other environmental conditions outside of the Equipment's technical specifications such as extreme temperatures, corrosives and metallic pollutants, or (iv) any other cause other than ordinary use;

D. Damage caused by fire, flood, earthquake, water, wind, lightning or other natural disaster, strike, inability to obtain materials or utilities, war, terrorism, civil disturbance or any other cause beyond Daktronics' reasonable control;

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

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

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

H. Any performance of preventive maintenance;

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

K. Incorporation of accessories, attachments, software or other devices not furnished by Daktronics; or

L. Paint or refinishing the Equipment or furnishing material for this purpose.

3. Limitation of Liability

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

It is specifically agreed that the price of the Equipment is based upon the following limitation of liability. In no event shall Daktronics (including its subsidiaries, affiliates, officers, directors, employees, or agents) be liable for any special, consequential, incidental or exemplary damages arising out of or in any way connected with the Equipment or otherwise, including but not limited to damages for lost profits, cost of substitute or replacement equipment, down time, lost data, injury to property or any damages or sums paid by Purchaser to third parties, even if Daktronics has been advised of the possibility of such damages. The foregoing limitation of liability shall apply whether any claim is based upon principles of contract, tort or statutory duty, principles of indemnity or contribution, or otherwise.

In no event shall Daktronics be liable to Purchaser or any other party for loss, damage, or injury of any kind or nature arising out of or in connection with this Warranty in excess of the purchase price of the Equipment actually delivered to and paid for by the Purchaser. The Purchaser's remedy in any dispute under this Warranty shall be ultimately limited to the Purchase Price of the Equipment to the extent the Purchase Price has been paid.

4. Assignment of Rights

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

5. Governing Law

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

6. Availability of Extended Service Agreement

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