



Hockey Scoring Systems

Installation, Maintenance, & Troubleshooting Manual

ED 3364

Model Numbers

H-813S H-813B
H-2013S H-2013B
H-2813S H-2813B

ED#3364

Product #1010

Rev. 9 - 19July99

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COMMUNICATION SOLUTIONS

THROUGH TECHNOLOGY

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Section 1: INTRODUCTION

| | |
|--|-----------------|
| Reference Drawings: Model ID, H-XX13S..... | Drawing A-39709 |
| Model ID, H-XX13B..... | Drawing A-39708 |
| System Layout | Drawing A-32236 |

Your Daktronics Hockey Scoring System is one of a family of display systems designed to offer simple installation, easy readability, and reliability. Microprocessor control assures consistent operation and accuracy.

Six display models, H-813S, H-2013S, H-2813S, H-813B, H-2013B, and H-2813B are covered by this manual, which is provided to assist you in installing and operating your system, and as an aid to you if the display needs service.

1.1 How To Use This Manual

This manual explains the installation, operation, maintenance and troubleshooting of the East Carolina University display system. 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.
2. Do not drop the control console or allow it to get wet.
3. Be sure the display is properly grounded with a ground rod at the display location.
4. *Disconnect power to the display when it is not in use.*
5. *Disconnect power when servicing the display.*
6. Do not modify the display structure or attach any panels or coverings to the display without the written consent of Daktronics, Inc.

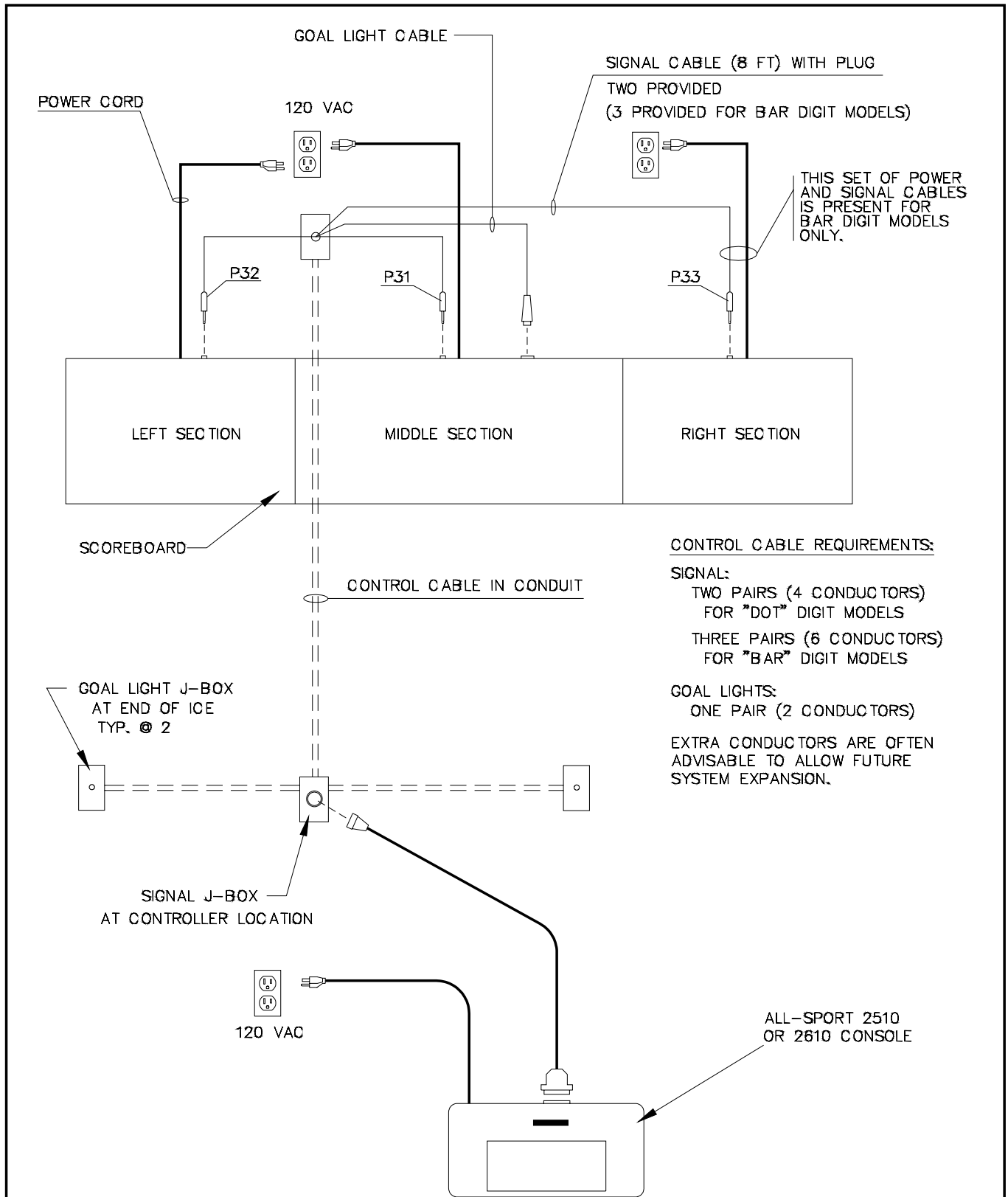
Daktronics identifies manuals by an ED number located on the cover page of each manual. Any reference manuals called out in this manual will be identified by its ED number. For example, this manual would be referred to as **ED-3364**.

The box below illustrates Daktronics drawing numbering system. This number is located in the lower-right corner of the drawing. Drawings in the manual are identified by listing the last set of digits and the letter preceding them. In the example below, the drawing would be referred to as **Drawing A-69945**. Referenced drawings are inserted at the end of the section that references them.

| | |
|--------------------------------------|-----------------|
| DAKTRONICS, INC. BROOKINGS, SD 57006 | |
| PROJ: | |
| TITLE: | |
| DES. BY: | DRAWN BY: DOK |
| DATE: 04-20-95 | |
| APPR. BY: | 7087-P08A-69945 |
| SCALE: 1=80 | |

1.2 Model Identification

The figures on **Drawing A-39709** show the three dot-digit display models covered in this manual. The figures on **Drawing A-39708** show the three bar-digit display models covered in this manual. Also listed are the dimensions and weight of each display. Display model number and electrical requirements are found on a label on the front of the display, to the left of the period indicator lights.



CONTROL CABLE REQUIREMENTS:

- SIGNAL:**
 TWO PAIRS (4 CONDUCTORS)
 FOR "DOT" DIGIT MODELS
 THREE PAIRS (6 CONDUCTORS)
 FOR "BAR" DIGIT MODELS

- GOAL LIGHTS:**
 ONE PAIR (2 CONDUCTORS)

EXTRA CONDUCTORS ARE OFTEN
 ADVISABLE TO ALLOW FUTURE
 SYSTEM EXPANSION.

| | | | |
|---|---------|--|-----|
| 1 | 19JUL89 | CORRECTED WIRE LABELS ON POWER & SIGNAL CABLES | TJO |
|---|---------|--|-----|

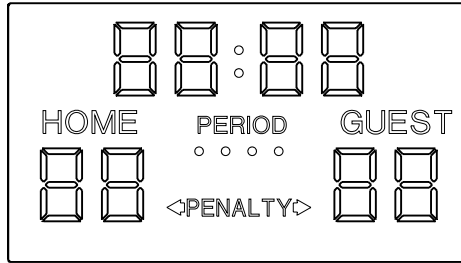
| | | | | |
|------|---------|---|-----|-------|
| 4 | 15NOV95 | CHANGED TO A-SIZE BORDER CHANGED CONSOLE MODELS TO 2510 & 2610 ADDED GOAL LIGHT WIRES | AVB | |
| 3 | 04JAN90 | CHANGED SIGNAL CABLE LENGTH | JLH | AVB |
| 2 | 21SEP89 | ADDED CABLES TO THIRD SECTION TO INDICATE H-XX13B LAYOUT | JLH | AVB |
| REV. | DATE | DESCRIPTION | BY | APPR. |

| | | | |
|---|---------------------------|------------------------|----------------------|
| DAKTRONICS, INC. BROOKINGS, SD 57006 | | | |
| PROJ: HOCKEY SCOREBOARDS | | | |
| TITLE: SYSTEM LAYOUT | | | |
| DES. BY: | DRAWN BY: T OPPOLD | | DATE: 19JUL88 |
| REVISION | APPR. BY: | 1010-R04A-32236 | |
| | SCALE: NONE | | |

MODEL DESCRIPTIONS

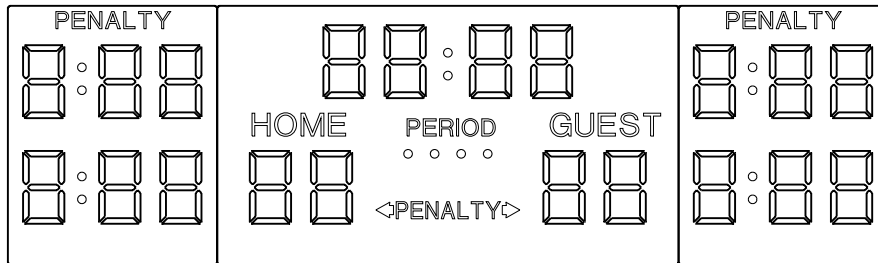
MODEL NO: H-813B

Height : 45.25 in (1149 mm)
 Width : 80.76 in (2051 mm)
 Depth : 6.10 in (155 mm)
 Weight: 90 lbs (41 kg)



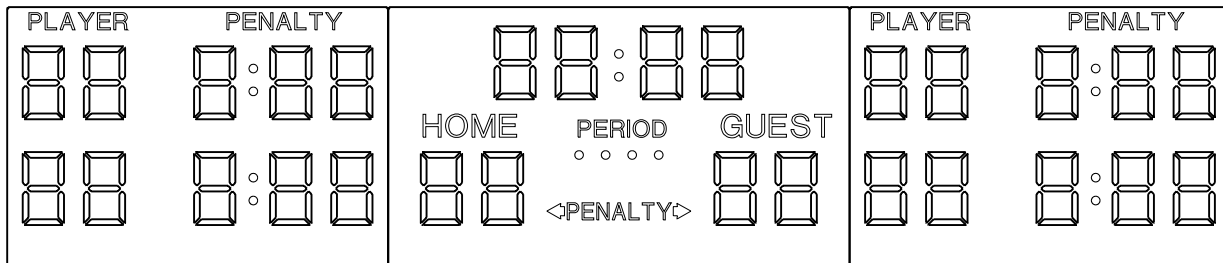
MODEL NO: H-2013B

Height : 45.25 in (1149 mm)
 Width : 154.16 in (3916 mm)
 Depth : 6.10 in (155 mm)
 Weight: 220 lbs (100 kg)



MODEL NO: H-2813B

Height : 45.25 in (1149 mm)
 Width : 214.40 in (5446 mm)
 Depth : 6.10 in (155 mm)
 Weight: 250 lbs (114 kg)

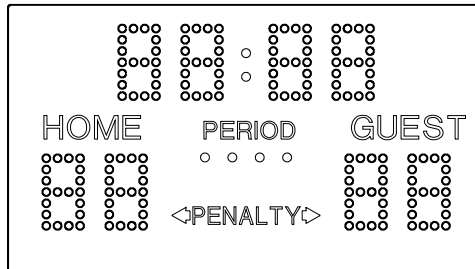


| | | | | | |
|------|------|-------------|---|---|-----------------|
| | | | | DAKTRONICS, INC. BROOKINGS, SD 57006 | |
| | | | | PROJ: HOCKEY SCOREBOARDS | |
| | | | | TITLE: MODEL ID, H-XX13B | |
| 2 | | 03NOV93 | CORRECTED DISPLAY DIMENSIONS FOR H-2013B AND H-2813B. | AVB | AVB |
| 1 | | 13AUG92 | CHANGE BORDER TO A-SIZE | AVB | AVB |
| REV. | DATE | DESCRIPTION | | BY | APPR. |
| | | | | REVISION | APPR. BY: AVB |
| | | | | SCALE: 1=30 | 1010-R08A-39708 |
| | | | | DRAWN BY: J HEIDERSCHIEDT DATE: 21SEP89 | |

MODEL DESCRIPTIONS

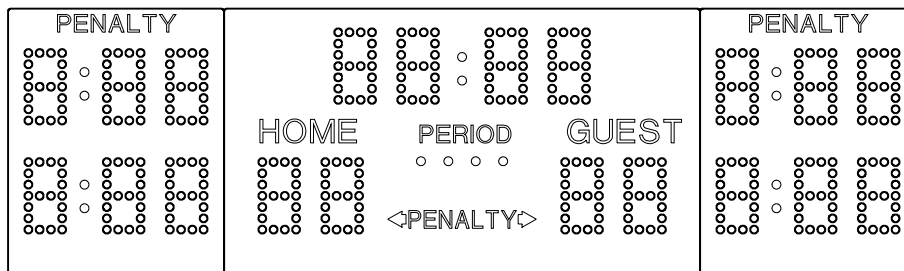
MODEL NO: H-813S

Height : 45.25 in (1149 mm)
 Width : 80.76 in (2051 mm)
 Depth : 6.10 in (155 mm)
 Weight: 80 lbs (36 kg)



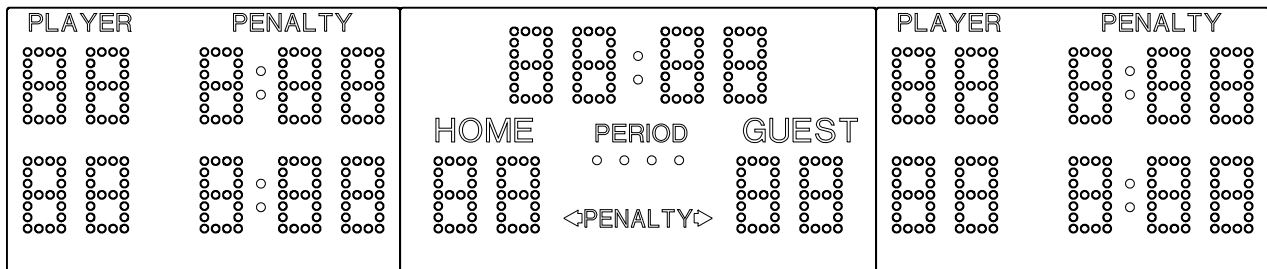
MODEL NO: H-2013S

Height : 45.25 in (1149 mm)
 Width : 154.16 in (3916 mm)
 Depth : 6.10 in (155 mm)
 Weight: 200 lbs (90 kg)



MODEL NO: H-2813S

Height : 45.25 in (1149 mm)
 Width : 214.40 in (5446 mm)
 Depth : 6.10 in (155 mm)
 Weight: 220 lbs (100 kg)



| | | | | | |
|--|---------|---|--|---------------|-----------------|
| DAKTRONICS, INC. BROOKINGS, SD 57006 | | | | | |
| PROJ: HOCKEY SCOREBOARDS | | | | | |
| TITLE: MODEL ID, H-XX13S | | | | | |
| DES. BY: _____ DRAWN BY: J HEIDERSCHIEDT DATE: 21SEP89 | | | | | |
| REV. | | DATE | | DESCRIPTION | |
| BY | | APPR. | | REVISION | |
| 2 | 03NOV93 | CORRECTED DISPLAY DIMENSIONS FOR H-2013S AND H-2813S. | | AVB | AVB |
| 1 | 13AUG92 | CHANGE BORDER TO A-SIZE CORRECTED MODEL NUMBERS | | AVB | AVB |
| | | | | APPR. BY: AVB | 1010-R08A-39709 |
| | | | | SCALE: 1=30 | |

Section 2: INSTALLATION

| | |
|---|------------------------|
| Reference Drawings: Scoreboard Mounting | Drawing A-26861 |
| Display Interconnections | Drawing A-28822 |
| Signal Connection, 16-Pin | Drawing A-31808 |

Refer to **Drawing A-32236** for general system configuration.

1. Provide grounded 120 VAC circuits to display and control locations.
2. Route control signal cable in conduit from the control location to the display location. Two pairs of conductors (22 AWG min.) are required for each display. One-half-inch conduit is adequate for these wires.
3. If existing cable in good condition is available, four conductors from it may be used. Cable should run less than 1000 feet from the control location to the display. For greater lengths, contract Daktronics.
4. Mount the display sections as described below and **Drawing A-26861**.
5. For dot-digit models, H-2013S and H-2813S, connect display sections together as shown in **Drawing B-28822**. These connections are not applicable for dot-digit model H-813S or any bar-digit model.
6. Make electrical connections as described in **Drawing A-31808** and **Section 2.2**.

2.1 Mounting

Holes for lifting the display and for attaching the display to the wall are provided in the frame of the display, as shown in **Drawing A-26861**.

Due to the variety of wall materials used in sports facilities, we can not anticipate your needs and provide a mounting bolt or anchor suited to your installation. Suitable mounting hardware may be purchased at your local hardware store. Bolts with expansion or toggle anchors are available for a variety of wall materials. Be sure that the method you choose is adequate to safely support the weight of the display.

Use the holes in the end of the frame to lift the display. Secure the display to the wall with the holes in the back, as shown in **Drawing A-26861**. Two holes at the bottom of the display are provided to secure the bottom of the display to the wall in a similar manner.

2.2 Electrical Installation

Electrical installation involves routing of power and control signal wiring through separate conduit or wire ways. Control signal cable is not provided as part of this system and can be purchased locally.

2.2.1 Power

Each display is equipped with a 120 VAC, 3-prong plug. Provide two grounded receptacles and plug it in. Actual maximum display power consumption is as follows:

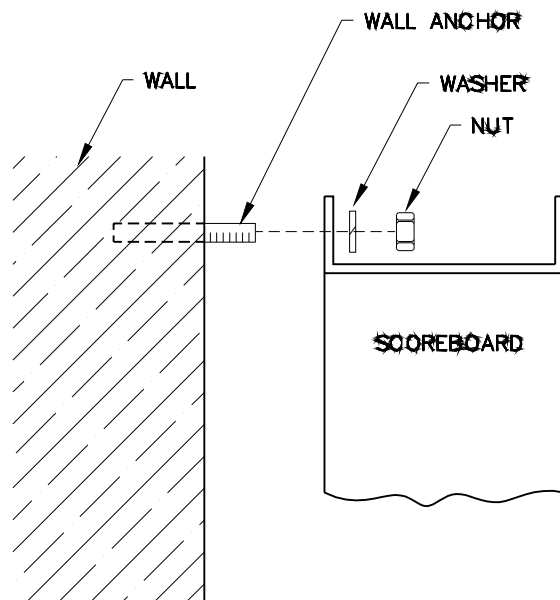
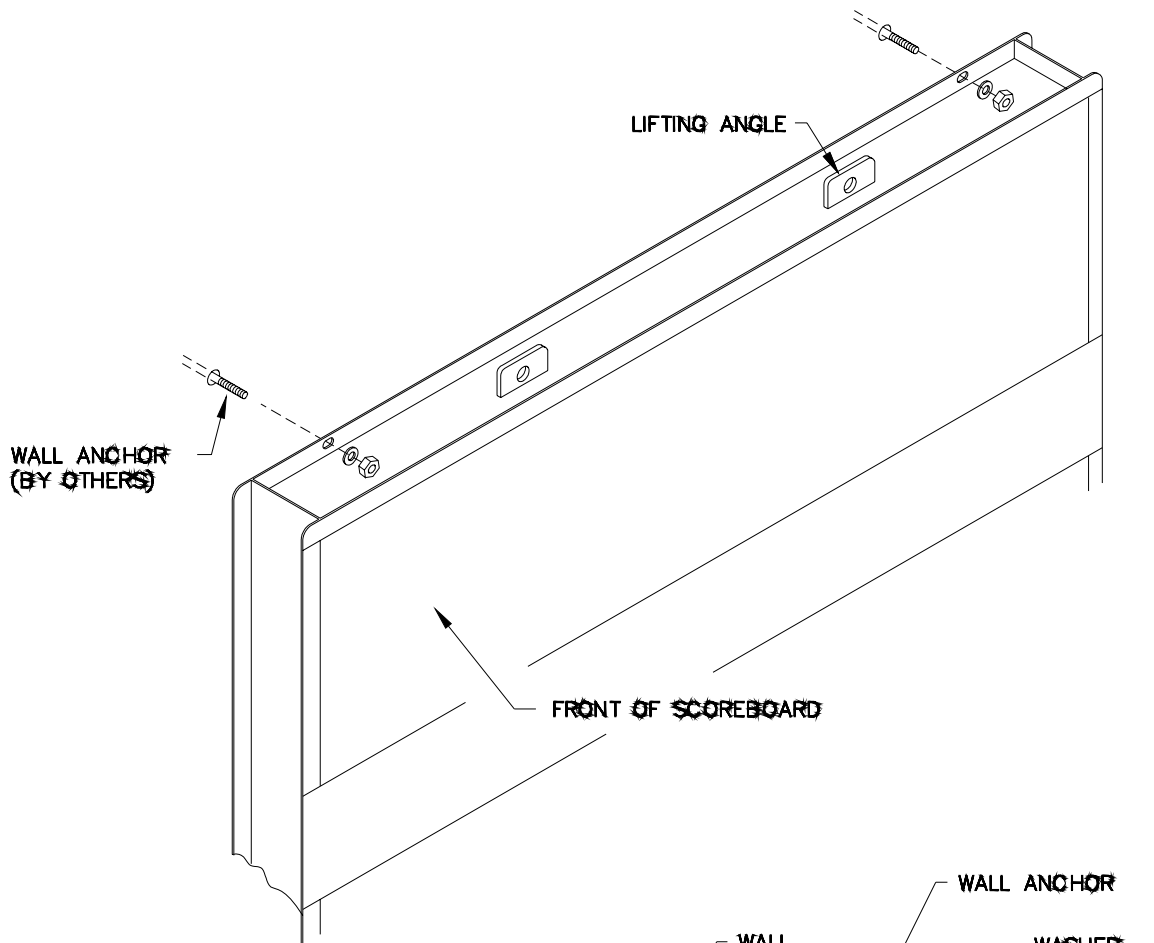
| Model No. | Max. Power |
|-----------|------------|
| ----- | ----- |
| H-813S | 300 watts |
| H-813B | 400 watts |
| H-2013S | 700 watts |
| H-2013B | 950 watts |
| H-2813S | 950 watts |
| H-2813B | 1300 watts |

The control console requires a grounded 120 VAC receptacle for power. Power requirement is less than one amp.

2.2.2 Signal

Route conduit and cable between display location(s) and the control location. Use paired cable, minimum 22 AWG, connecting the cable to the junction box at the control end. Connect the phone plugs provided to the display end of the cable. Insert plugs into the jacks on the top of the display. Make connections according to the drawing on the next page, and chart below.

| DISPLAY LOCATION | | CONTROL LOCATION |
|-----------------------------------|-------|------------------|
| Center Section | Red | Red |
| | Black | Black |
| Left Section | Red | White |
| | Black | Green |
| Right Section (Bar Digit Only) | Red | Orange |
| | Black | Blue |



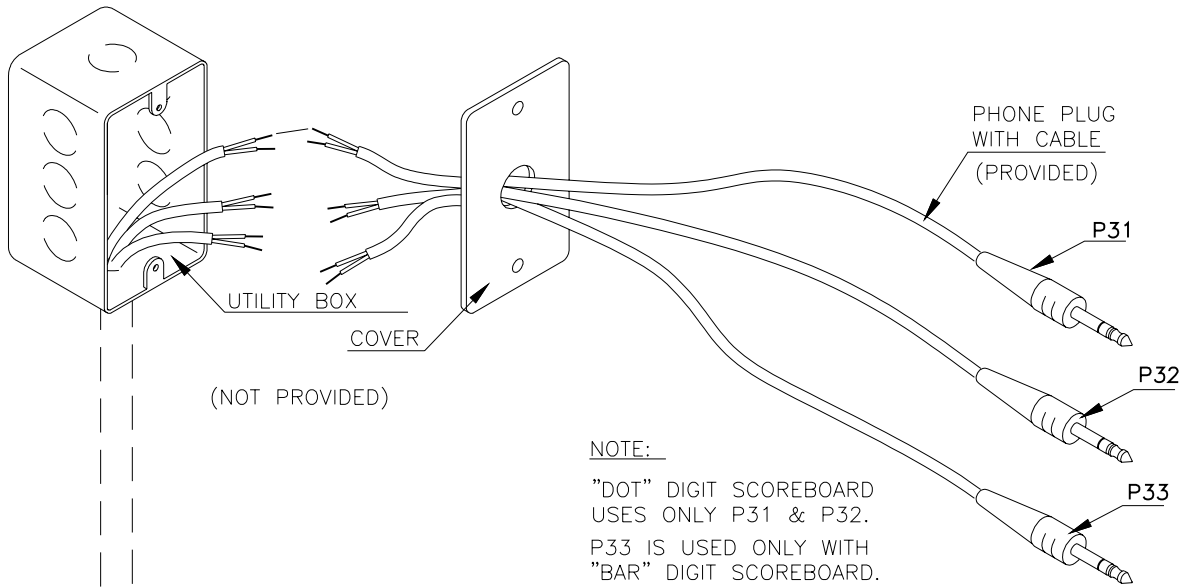
ATTACH THE SCOREBOARD TO THE WALL AT BOTH MOUNTING LOCATIONS INDICATED. USE THE APPROPRIATE ANCHORS FOR THE TYPE OF WALL.

| | | | |
|---|---------|---------------------------|-----|
| 1 | 05NOV91 | REDREW ON A-SIZE ON ACAD. | JLH |
|---|---------|---------------------------|-----|

| REV. | DATE | DESCRIPTION | BY | APPR. |
|------|-----------|---|--------|-------|
| 4 | 18AUG94 | DELETED REFERENCE TO SPECIFIC MODELS | AVB | AVB |
| 3 | 1 NOV 93 | REMOVED LIFTING HOLES AT EACH SIDE OF DISPLAY AND ADDED LIFTING ANGLES. | C FICK | |
| 2 | 10 JAN 92 | ADDED "MOUNTING STUDS LOCATIONS" DETAIL. | C FICK | |

| | |
|--------------------------------------|---------------------|
| DAKTRONICS, INC. BROOKINGS, SD 57006 | |
| PROJ: | |
| TITLE: | SCOREBOARD MOUNTING |
| DES. BY: | WREDER |
| DRAWN BY: | WREDER |
| DATE: | 14APR86 |
| REVISION | APPR. BY: AVB |
| | SCALE: NONE |
| 1009-R10A-26861 | |

DISPLAY LOCATION



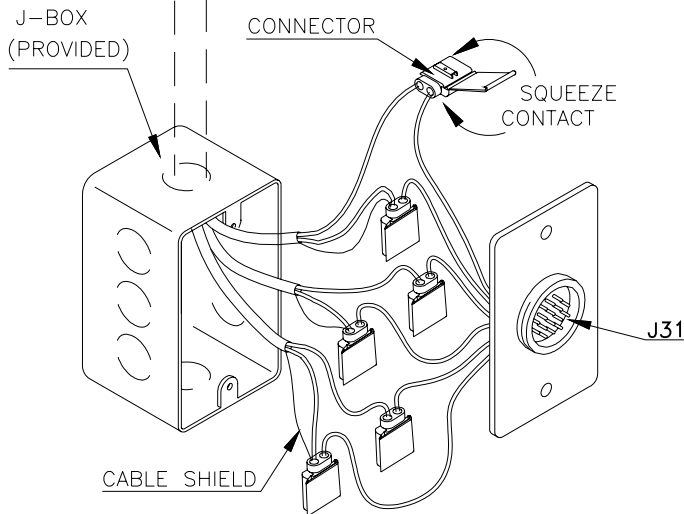
PROCEDURE

1. ROUTE CONDUIT BETWEEN CONTROL AND DISPLAY LOCATIONS.
2. MOUNT BOXES.
3. PULL CABLE THROUGH CONDUIT.
4. CONNECT CABLE TO J31, P31, P32, AND P33 AS FOLLOWS:

CABLE IN CONDUIT
(NOT PROVIDED)

| CONTROL LOCATION | | | DISPLAY LOCATION | |
|------------------|-------------------|------------------|------------------|--------------------|
| J31 PIN NO. | WIRE COLOR AT J31 | FUNCTION | PLUG NO. | WIRE COLOR AT PLUG |
| 1 | RED | CENTER SECTION + | P31 | RED |
| 2 | BLACK | CENTER SECTION - | P31 | BLACK |
| 3 | WHITE | LEFT SECTION + | P32 | RED |
| 4 | GREEN | LEFT SECTION - | P32 | BLACK |
| 5 | ORANGE | RIGHT SECTION + | P33 | RED |
| 6 | BLUE | RIGHT SECTION - | P33 | BLACK |

CONTROL LOCATION

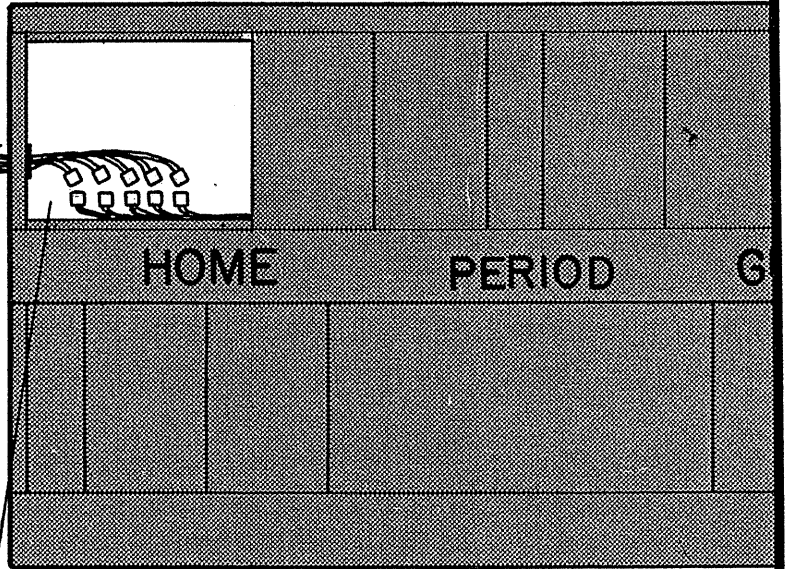
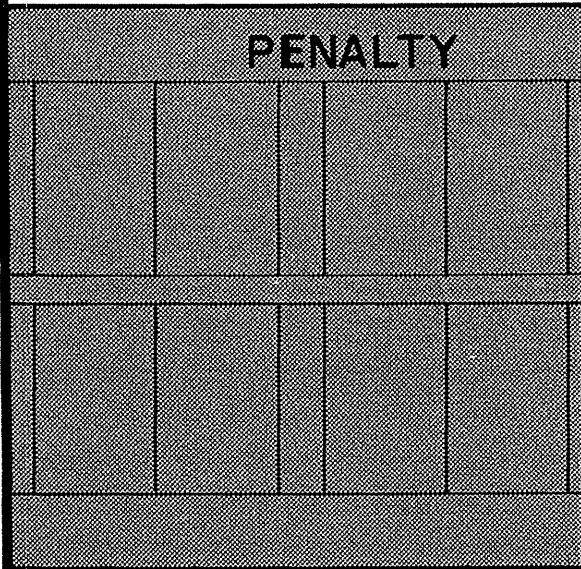


NOTE:
CONNECT CABLE SHIELD TO NEG. WIRE AT CONTROL END ONLY. CUT SHIELD OFF AT DISPLAY END SO THAT IT DOES NOT MAKE CONTACT.

| | | | | |
|--------------------------------------|-------------|---|-----|---------------|
| DAKTRONICS, INC. BROOKINGS, SD 57006 | | | | |
| 2 | 02DEC92 | CHANGED WIRE COLORS AT J31. MOVED TO A-SIZE FORMAT. | AVB | AVB |
| 1 | 02OCT89 | ADDED P33. | JLH | AVB |
| REV. | DATE | DESCRIPTION | BY | APPR. |
| PROJ: HOCKEY SCOREBOARDS | | | | |
| TITLE: SIGNAL CONNECTION, 16-PIN | | | | |
| DES. BY: | | DRAWN BY: C FICKBOHM | | DATE: 13MAR87 |
| REVISION | APPR. BY: | 1010-R10A-31808 | | |
| | SCALE: NONE | | | |

LEFT SECTION
(H-613S-L or H-1013S-L)

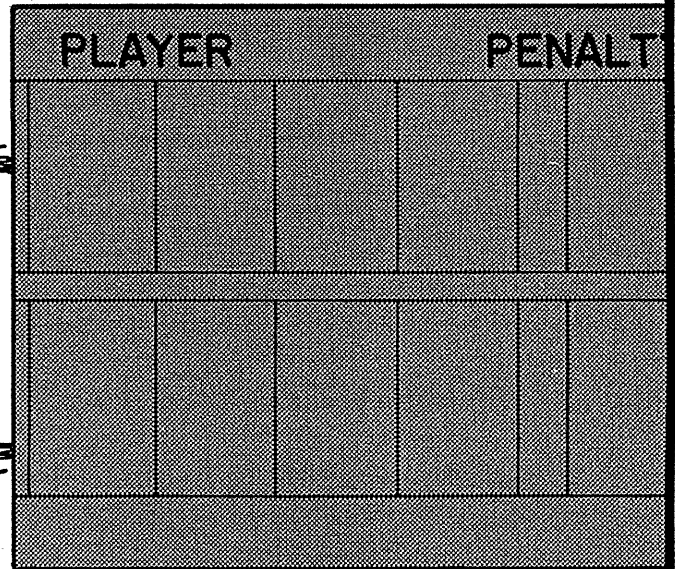
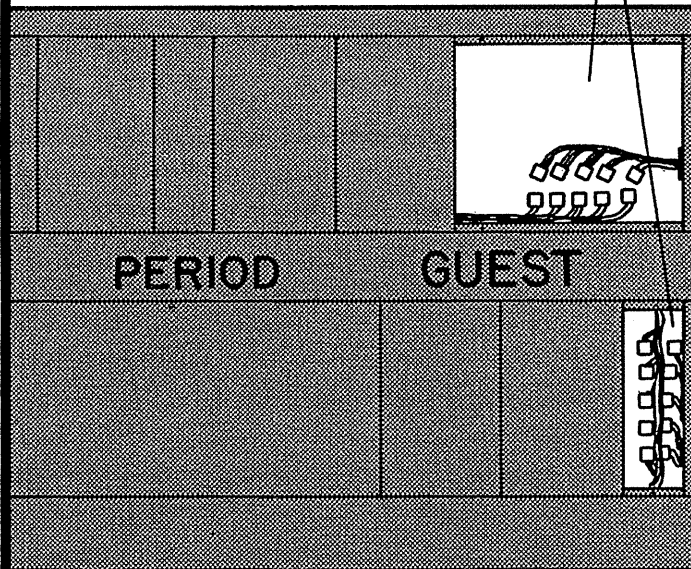
CENTER SECTION
(H-813S)



REMOVE THESE PANELS
FROM CENTER SECTION.

CENTER SECTION
(H-813S)

RIGHT SECTION
(H-613S-R or H-1013S-R)



ROUTE CABLES FROM END SECTIONS INTO CENTER SECTION.
MATCH NUMBERS ON JACKS AND PLUGS AND CONNECT.

Section 3: Maintenance & Troubleshooting



IMPORTANT NOTES:

1. Disconnect power before any repair or maintenance work is done on the scoreboard display!
2. Any access to internal display electronics must be made by qualified service personnel.
3. Disconnect power when the scoreboard display is not in use.

| | | |
|---------------------|--|-----------------|
| Reference Drawings: | Lamp Service, 13" 4x7 DOT Matrix Digit | Drawing A-26872 |
| | Lamp Service, 7 Segment Bar Digit..... | Drawing A-38533 |
| | Lamp Driver, 16 Col, w/o Fan | Drawing A-37073 |
| | Segmentation, 4x7 Digit..... | Drawing A-26762 |
| | Segmentation, 7 Segment Bar Digit..... | Drawing A-38532 |
| | Driver Assignments, H-XX13S..... | Drawing A-28860 |
| | Driver Assignments, H-XX13B..... | Drawing A-39711 |
| | Component Locations, H-XX13S | Drawing A-28823 |
| | Component Locations, H-XX13B | Drawing A-39710 |

3.1 Lamp Service

The primary service required by Daktronics Hockey Scoring Systems is to replace lamps periodically. The replacement lamp is type no. 656, 28V, 60 ma, wedge base and the Daktronics part number is DS-1115. Do not use a higher powered lamp or a lamp rated for different voltage or damage may result.

Lamp replacement procedure is illustrated in **Drawings A-26872** and **A-38533**.

3.2 Lamp Driver

In each display the task of switching lamps on and off is performed by the Lamp Driver (**Drawing A-37073**). Each Lamp Driver has 20 connectors providing power and signal inputs and outputs to digits and indicators. The function of each of these connectors is as follows:

| Connector | Function |
|-----------|----------------------------------|
| 1 thru 16 | Outputs to digits and indicators |
| 17 | Control signal input |
| 18 | Power for connectors 1 thru 8 |
| 19 | Power (120V) for driver logic |
| 20 | Power for connectors 9 thru 16 |

Output connectors 1 through 16 each have 9 pins. Pin 7 provides power to the digit or indicators wired to that connector. The other 8 pins provide switching connections. **Drawings A-28860** and **A-39711** show which connector number or connector and pin number, operates each digit or indicator in each display model.

3.3 Segmentation

In each digit, certain lamps always go on and off together. These groupings of lamps are referred to as "segments". **Drawings A-26762** and **A-38532** show which connector pin number is wired to each digit segment, and the wiring color code used throughout the display.

3.4 Fuses

The lamp driver in the scoreboard has 17 fuses. There is one fuse to protect each digit circuit. These fuses are type AGC-10 (refer to **Drawing A-37073**) and are located next to each digit output under a single metal cover.

The other fuse, F17, is type AGC-1/2. It is located near the left end of the driver, under the same cover as F1 through F16. This fuse protects the driver logic circuit and the fan.

Additionally, each display section has one fuse, F401, located behind the access door, to protect 120 VAC wiring circuits.

Replace fuses only with fuses of the same type and rating.

3.5 Component Location and Access

Drawing A-28823 shows front views of the three dot-digit display models covered here, and the locations of the various components. **Drawing A-39710** shows the same thing for the three bar-digit display models covered here. The component numbers correspond to the schematic, **Drawing A-28380** (at the end of Appendix A).

Refer to **Drawing A-26762** for locations of lamp drivers and other components.

The lamp driver is located behind the indicator panel. Remove the screws securing the bottom of the panel to gain access.

3.6 Troubleshooting

The following is a list of possible problems and the remedy for them. It is not inclusive of every possible problem.

| Observed Problem | Possible Cause | Remedy |
|------------------------------|---|---|
| Display won't light | <ul style="list-style-type: none"> • Console not connected or poor connection. • No power to console. • Power off at source. • Fuse blown at display. • Driver logic fuse blown. | <ul style="list-style-type: none"> • Check console connection. • Check console power. • Check power. • Replace fuse. • Replace fuse. |
| Individual lamps won't light | <ul style="list-style-type: none"> • Lamps burned out. • Broken wire. | <ul style="list-style-type: none"> • Replace lamp. • Locate and repair break. |
| Segment stays lit | <ul style="list-style-type: none"> • Driver malfunction | <ul style="list-style-type: none"> • Contact Daktronics |
| Garbled display | <ul style="list-style-type: none"> • Console malfunction. • Poor signal connection. • Driver malfunction. | <ul style="list-style-type: none"> • Contact Daktronics. • Check console connections. • Contact Daktronics. |
| Entire digit won't light | <ul style="list-style-type: none"> • Broken wire. • Fuse blown in driver. | <ul style="list-style-type: none"> • Locate and repair break. • Replace fuse. |

3.7 Replacement Parts

The following is a list of replacement parts for the hockey scoring systems.

| Description | Component Reference # | Where Used | Daktronics Part # |
|--------------------------------|-----------------------|-------------------|-------------------|
| Fuse; AGC-1/2 | F17 | Driver Logic | F-1000 |
| Fuse; AGC-10 | F1-F16 | Driver Outputs | F-1006 |
| Fuse; ABC-10 | F401 | Main | F-1007 |
| Fuseholder; Panel Mount | | Main Fuse | X-1032 |
| Lamp; #656 Wedge Base | | Digits, Indicator | DS-1115 |
| Lampholder; T-3 1/4 Wedge Base | | Digits, Indicator | X-1075 |
| Horn; 24 VAC 60Hz | LS1 | All Models | DS-1119 |
| Plug; 1/4" phone | | Signal Connection | P-1041 |
| Plug; 4-Pin MIC | P101 | H-813S & H-813B | P-1115 |
| Junction Box; 16 Pin | | Signal Connection | 0A-1010-0026 |
| Jack; 4-Pin MIC | J101 | H-813S & H-813B | J-1124 |
| Lamp Driver; 16 column | A101 | All Models | 0A-1033-0043 |
| Relay; 24 VAC | K1 | H-813S & H-813B | K-1014 |

3.8 Daktronics Exchange/Repair & Return Programs

To serve customer's repair and maintenance needs, Daktronics offers both an exchange and a repair and return program. The exchange program reduces down time by providing timely replacements parts for key components. This service is provided to qualified customers who follow the program guidelines explained below. It is our pleasure to provide this service to ensure you get the most from your Daktronics products. Please call our Help Desk (1-800 / 843-9879) if you have any 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 solve the equipment problem. You will work together to diagnose the problem and determine which exchange replacement part to ship. If, after you make the exchange, the equipment still causes problems, please contact our Help Desk immediately.

If the replacement part fixes the problem, package the defective part in the same packaging the replacement part arrived in, fill out and attach the enclosed UPS shipping document and **RETURN THE PART TO DAKTRONICS**. (You may use the same box and packing the exchange part was sent in.) This will speed up the transaction and alleviate confusion when the failed component arrives at Daktronics. (Daktronics expects immediate return of the exchange part if it does not solve the problem.) For most equipment, you will be invoiced for the replacement part at the time it is shipped. This invoice is due when you receive it.

Daktronics 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 purchase price of the equipment. This amount is due when you receive the second invoice. If you return the exchange equipment after 30 working days from invoice date, you will be credited for the amount on the second invoice minus a 20 percent restocking fee.

≅To avoid a 20 percent restocking charge, please return the defective equipment within 30 days from the invoice date.

For items that are not part of our exchange program, Daktronics offers a repair and return program.

Where to Send: To return parts for service, contact your local representative prior to shipment to acquire a Return Material Authorization Number (RMA#). If you have no local representative, call the Daktronics Help Desk for the RMA#. This will expedite the receiving process.

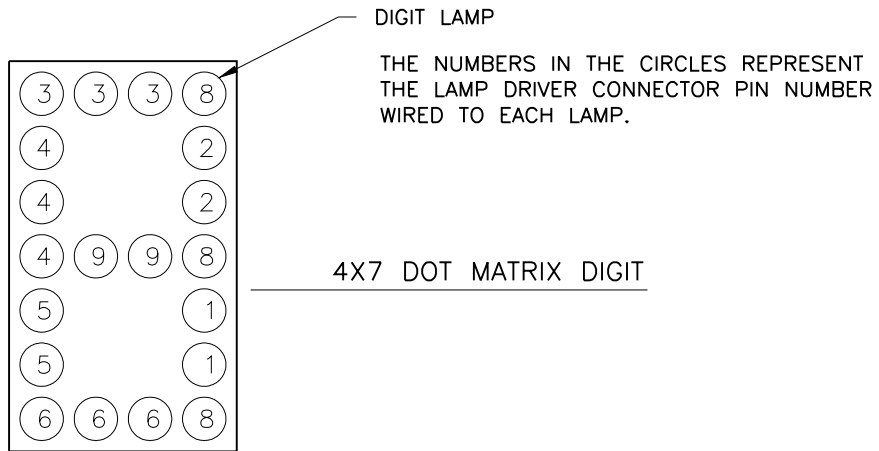
Packaging for Return: Package and pad the item well so that it will not be damaged in shipment. Electronic components such as printed circuit boards should either be installed in an enclosure or should be put in an anti-static bag before boxing. Please enclose your name, address, phone number and a clear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

PO Box 5128
331 32nd Avenue
Brookings, SD 57006

Phone: Daktronics Help Desk: 1-800/843-9879
or 1-605/697-4400

Customer Service Fax: 1-605-697-4444

e-mail: helpdesk@daktronics.com



DIGIT LAMP

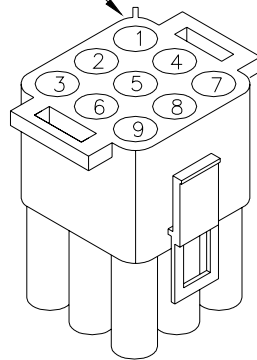
THE NUMBERS IN THE CIRCLES REPRESENT THE LAMP DRIVER CONNECTOR PIN NUMBER WIRED TO EACH LAMP.

4X7 DOT MATRIX DIGIT

LAMP DRIVER CONNECTOR

CONNECTOR PIN NUMBERING

NOTE SPLINE NEAR NO. 1



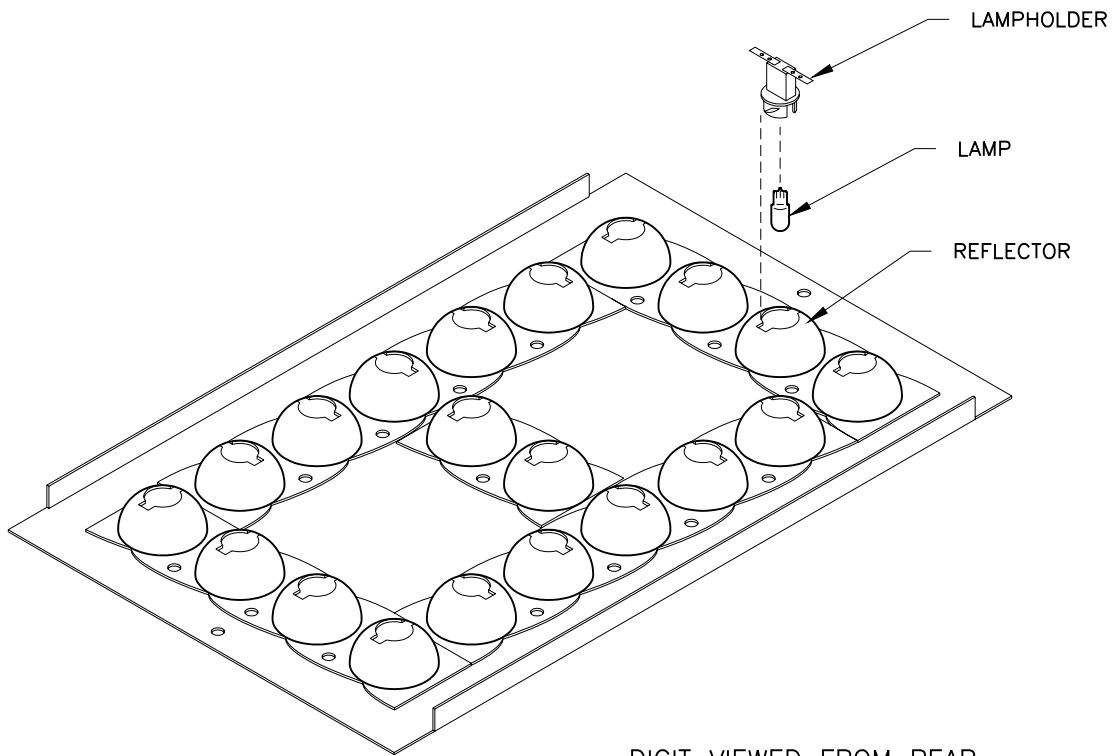
| COLOR CODE | | |
|------------|------------|----------------|
| PIN NO. | WIRE COLOR | DRIVER SEGMENT |
| 1 | ORANGE | C |
| 2 | RED | B |
| 3 | BROWN | A |
| 4 | BLUE | F |
| 5 | PINK | E |
| 6 | TAN | D |
| 7 | BLACK | COMMON |
| 8 | GRAY | H |
| 9 | VIOLET | G |

| | | | | | |
|------|---------|----------------------------|-----|--------------------------------------|---|
| | | | | DAKTRONICS, INC. BROOKINGS, SD 57006 | |
| 2 | 29JAN93 | CHANGED TO ASIZE-V BORDER. | AVB | AVB | PROJ: OUTDOOR SCOREBOARDS |
| 1 | 18APR89 | REDRAWN ON CAD. | AVB | AVB | TITLE: SEGMENTATION, 4X7 DIGIT |
| REV. | DATE | DESCRIPTION | BY | APPR. | DES. BY: DRAWN BY: WREDER DATE: 10APR86 |
| | | | | REVISION | APPR. BY: SCALE: NONE |
| | | | | 1064-R04A-26762 | |

WARNING: DISCONNECT POWER BEFORE SERVICING DIGITS

PROCEDURE:

1. REMOVE THE SCREWS SECURING THE DIGIT TO THE DISPLAY.
2. REMOVE THE DIGIT.
3. ROTATE THE LAMPHOLDER 1/4 TURN AND REMOVE IT FROM THE REFLECTOR.
4. PULL THE LAMP FROM THE LAMPHOLDER.
5. INSERT THE NEW LAMP.
6. REPLACE THE LAMPHOLDER INTO THE REFLECTOR.
7. POSITION THE DIGIT IN THE DISPLAY AND SECURE WITH SCREWS.



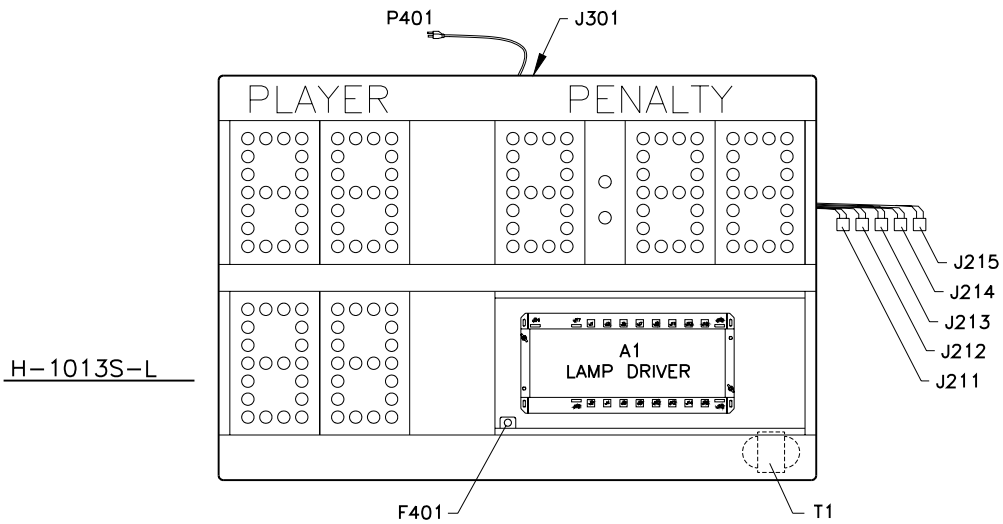
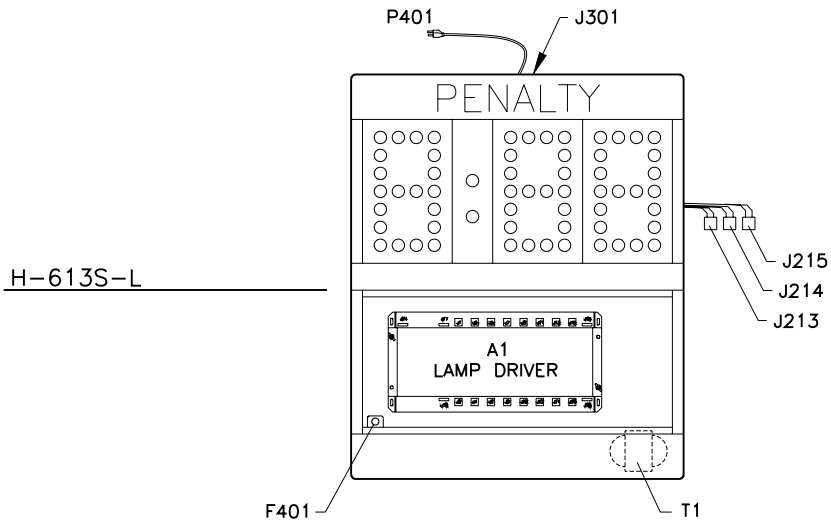
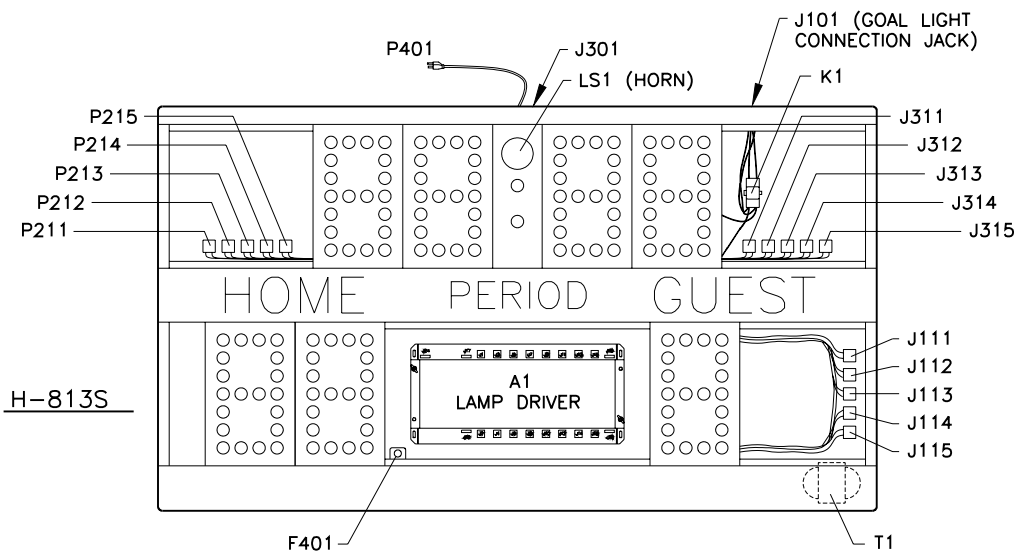
WIRING NOT SHOWN

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DAKTRONICS, INC. BROOKINGS, SD 57006

| REV. | DATE | DESCRIPTION | BY | APPR. |
|------|---------|--|-------|-------|
| 2 | 25JUN91 | REDRAWN ON CAD, CHANGED TO A-SIZE-V | AVB | AVB |
| 1 | 10SEP86 | DELETED NYLATCHES. | MHART | AVB |

| | |
|---|---------------------------------|
| PROJ: INDOOR SCOREBOARDS | |
| TITLE: LAMP SERVICE, 13" 4X7 DOT MATRIX DIGIT | |
| DES. BY: AVB | DRAWN BY: W REDER DATE: 29APR86 |
| REVISION 02 | APPR. BY: AVB SCALE: 1=4 |
| 1009-R10A-26872 | |



DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: HOCKEY

TITLE: COMPONENT LOCATIONS, H-XX13S

DES. BY: AVB

DRAWN BY: AVB

DATE: 11 DEC 86

REVISION

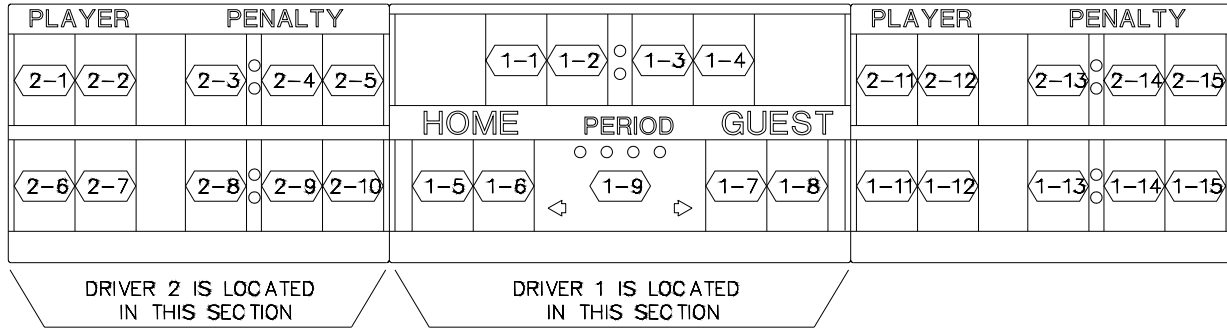
APPR. BY:

SCALE: 1=20

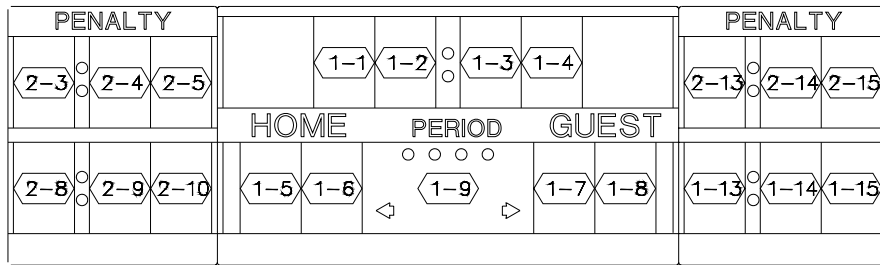
1010-R04A-28823

| REV. | DATE | DESCRIPTION | BY | APPR. |
|------|----------|--|--------|-------|
| 1 | 7 NOV 91 | CHANGED FROM "B" TO "A" SIZE DWG, REDRAWN ON AUTO CAD, AND ADDED J101. | C FICK | |

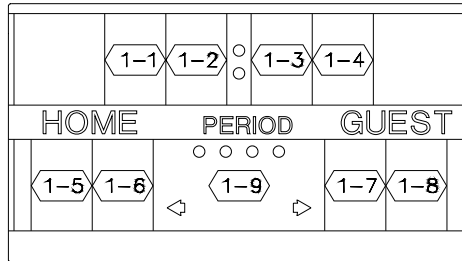
H-2813S



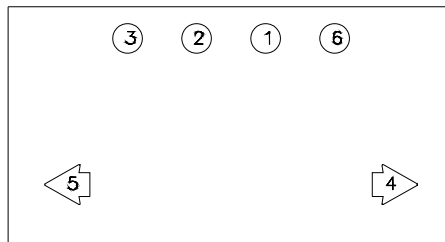
H-2013S



H-813S

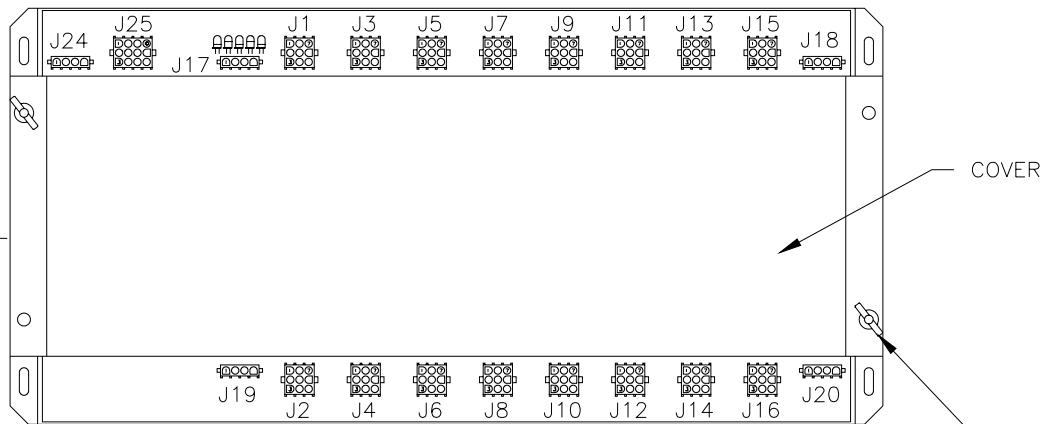


ACCESS DOOR:
ALL INDICATORS ARE
CONNECTED TO
DRIVER 1, PLUG 9,
PIN NO. AS SHOWN.



| | | | | |
|--------------------------------------|-----------|--|--|-----------------|
| DAKTRONICS, INC. BROOKINGS, SD 57006 | | | | |
| PROJ: HOCKEY SCOREBOARDS | | | | |
| TITLE: DRIVER ASSIGNMENTS, H-XX13S | | | | |
| REV. | | DATE | | DESCRIPTION |
| 2 | 09 OCT 97 | CORRECTED DESIGNATIONS FOR RIGHT SECTION OF H-2813S. | | AVB AVB |
| 1 | 15NOV95 | CHANGED TO A-SIZE BORDER | | AVB AVB |
| DES. BY: | | DRAWN BY: J HEIDERSCHIEDT DATE: 02 OCT 89 | | |
| REVISION | | APPR. BY: | | 1010-R04A-28860 |
| | | SCALE: 1=30 | | |

DRIVER FRONT VIEW WITH COVER



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

| J24 | | | |
|-----|----------|-----|------------|
| PIN | FUNCTION | PIN | FUNCTION |
| 1 | NETWORK+ | 7 | ADDR 3 - |
| 2 | NETWORK- | 8 | NTW GND - |
| 3 | NTWREF-P | 9 | NTW GND - |
| 4 | ADDR 0 - | 10 | FAN SW HOT |
| 5 | ADDR 1 - | 11 | FAN HOT |
| 6 | ADDR 2 - | 12 | NEUT |

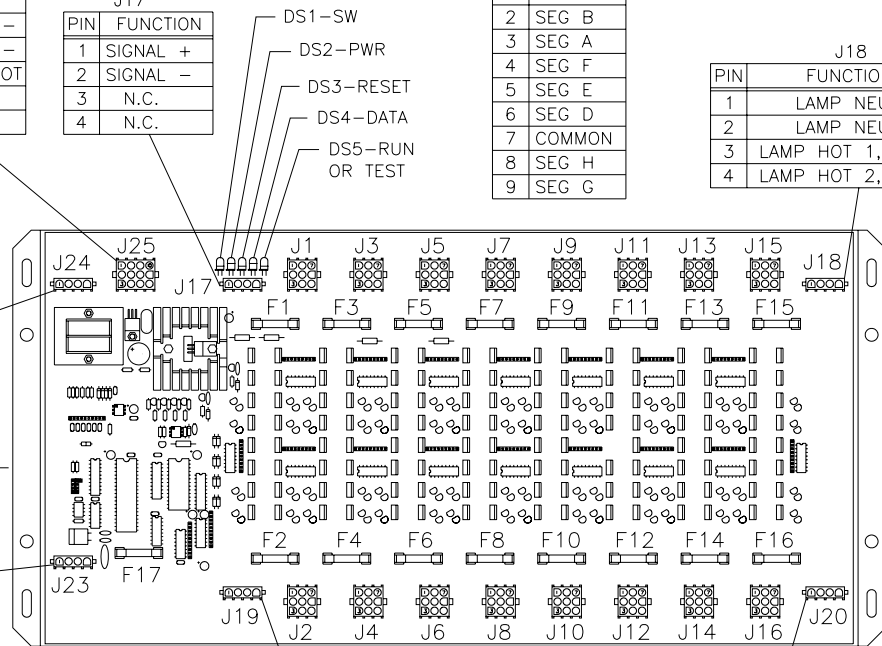
| J17 | |
|-----|----------|
| PIN | FUNCTION |
| 1 | SIGNAL + |
| 2 | SIGNAL - |
| 3 | N.C. |
| 4 | N.C. |

| 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 |

| J24 | |
|-----|-----------|
| PIN | FUNCTION |
| 1 | -5V |
| 2 | DIM SEL 1 |
| 3 | -5V |
| 4 | DIM SEL 2 |

DRIVER FRONT VIEW WITH COVER REMOVED



J23
(NOT USED IN THIS MODEL)

| PIN | FUNCTION |
|-----|------------|
| 1 | FAN SW HOT |
| 2 | N.C. |
| 3 | FAN HOT |
| 4 | NEUT |

| J19 | |
|-----|----------|
| PIN | FUNCTION |
| 1 | NEUTRAL |
| 2 | NEUTRAL |
| 3 | 120V HOT |
| 4 | 120V HOT |

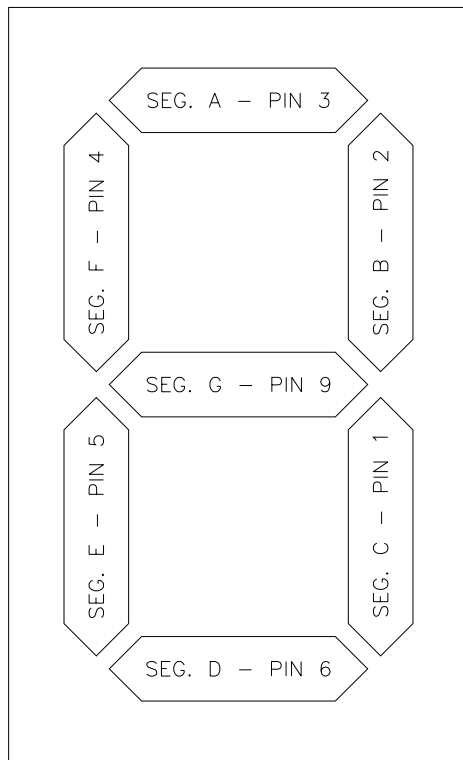
| J20 | |
|-----|----------------------|
| PIN | FUNCTION |
| 1 | LAMP NEUT |
| 2 | LAMP NEUT |
| 3 | LAMP HOT 9,11,13,15 |
| 4 | LAMP HOT 10,12,14,16 |

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

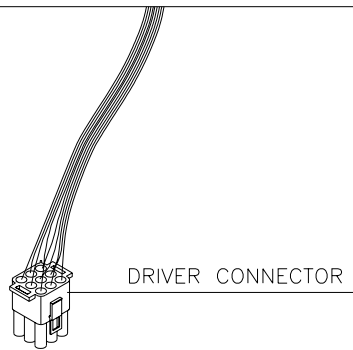
DAKTRONICS, INC. BROOKINGS, SD 57006

| REV. | DATE | DESCRIPTION | BY | APPR. |
|------|-----------|-------------------------------------|-----|-------|
| 2 | 29 APR 97 | ADDED TABLES OF PINS AND FUNCTIONS. | AVB | AVB |
| 1 | 02 JAN 92 | CHANGED FROM "B" TO "A" SIZE DWG. | CF | |

| | |
|-----------------|-------------------------------|
| PROJ: | MULTIPLEX CONTROLLERS |
| TITLE: | LAMP DRIVER, 16 COL., W/O FAN |
| DES. BY: | JLH |
| DRAWN BY: | JLH |
| DATE: | 20 FEB 89 |
| REVISION | APPR. BY: |
| | SCALE: 1=5 |
| 1033-R04A-37073 | |

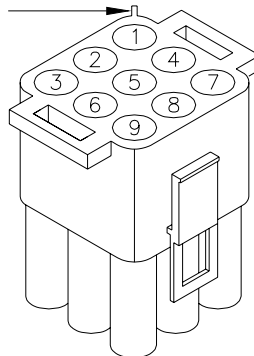


7 SEGMENT BAR DIGIT
FRONT VIEW



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

CONNECTOR PIN NUMBERING
NOTE SPLINE NEAR NO. 1



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

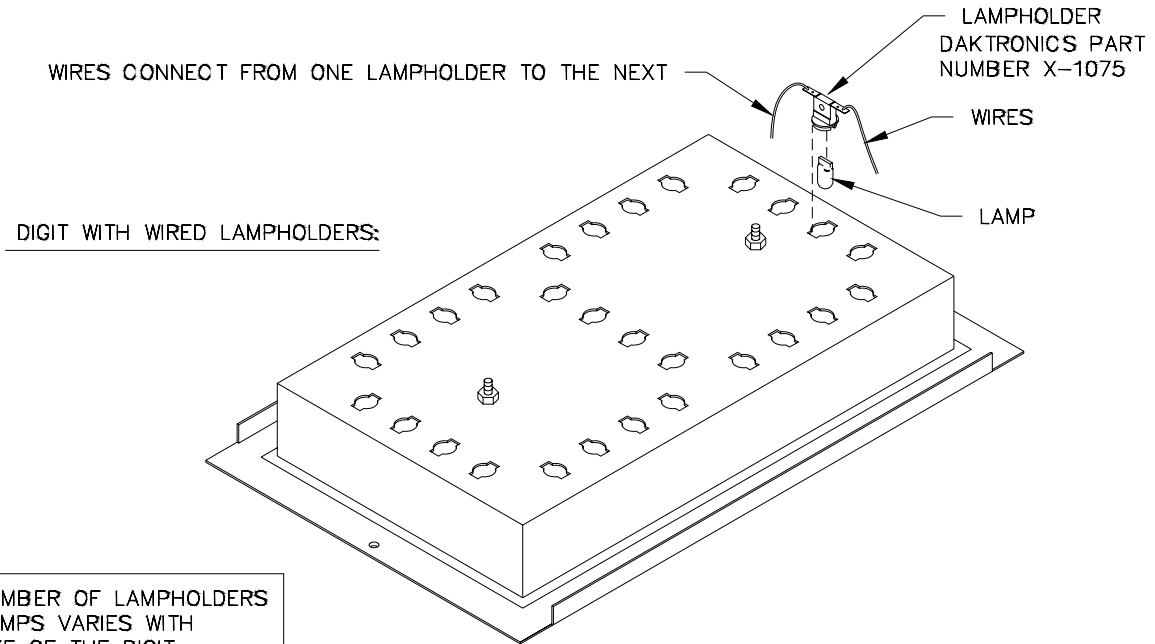
| | | | | |
|---|----------------------|--------------------------------|--|-----------------------|
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| DAKTRONICS, INC. BROOKINGS, SD 57006 | | | | |
| PROJ: BASKETBALL | | | | |
| TITLE: SEGMENTATION, 7 SEGMENT BAR DIGIT | | | | |
| DES. BY: | | DRAWN BY: HEIDERSCHIEDT | | DATE: 5 JUN 89 |
| REVISION | APPR. BY: AVB | 1009-R04A-38532 | | |
| 02 | SCALE: 1=4 | | | |

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

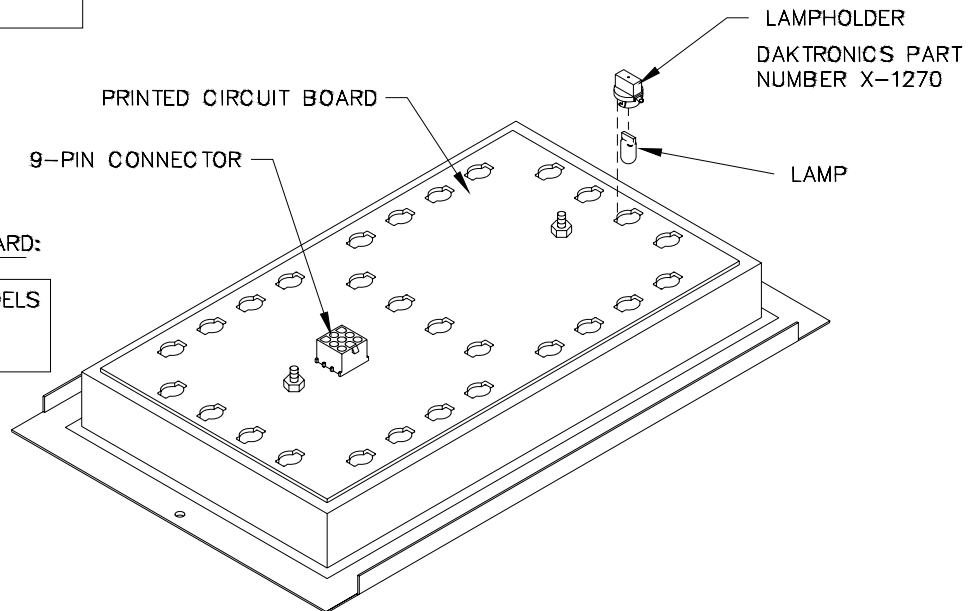
WARNING: DISCONNECT POWER BEFORE SERVICING DIGITS.

PROCEDURE:

1. REMOVE THE SCREWS SECURING THE DIGIT AND REMOVE THE DIGIT.
2. ROTATE LAMPHOLDER 1/4 TURN AND REMOVE IT FROM THE SOCKET PANEL.
3. PULL THE LAMP FROM THE LAMPHOLDER.
4. INSERT THE NEW LAMP.
5. REPLACE THE LAMPHOLDER.
6. REPLACE THE DIGIT AND SECURE WITH THE SCREWS.



THE NUMBER OF LAMPHOLDERS AND LAMPS VARIES WITH THE SIZE OF THE DIGIT.



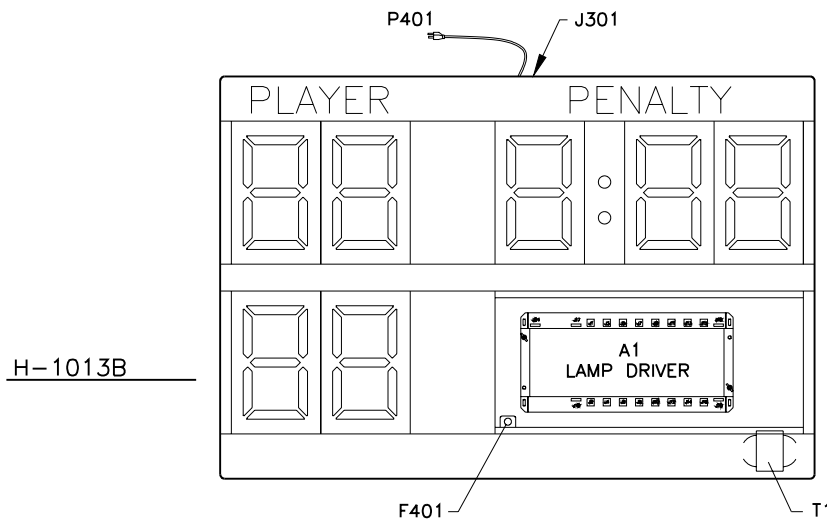
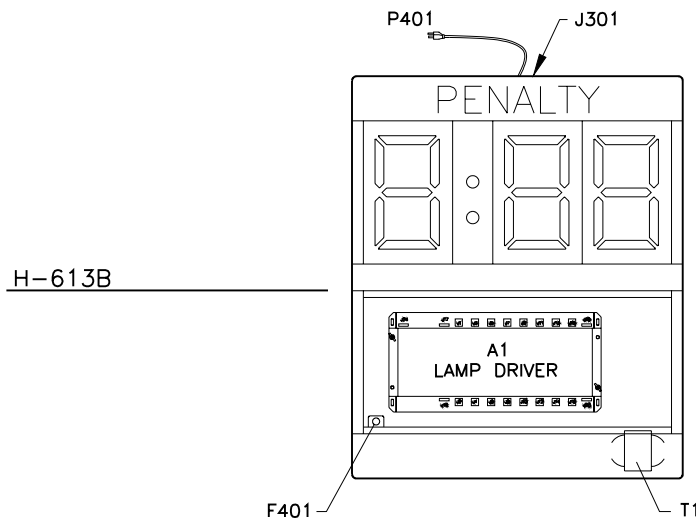
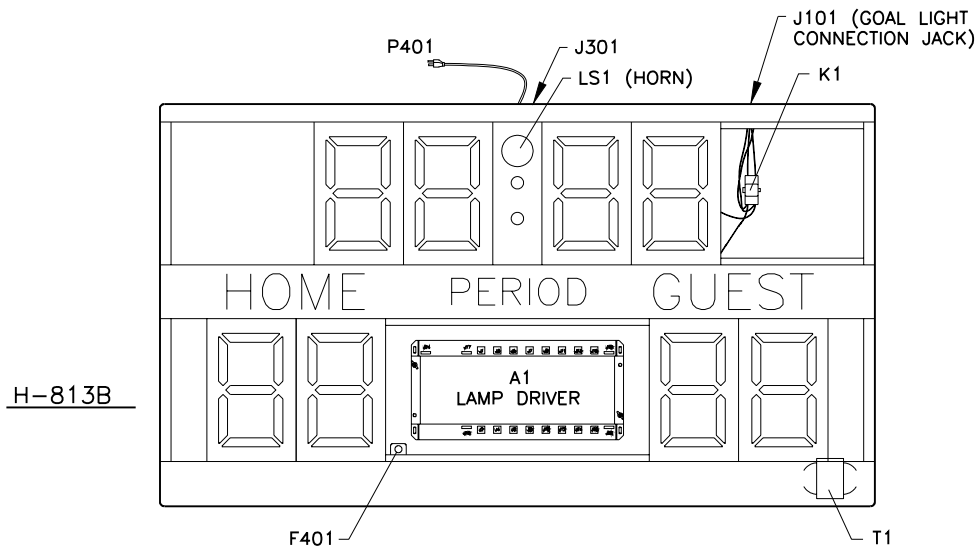
MOST SCOREBOARD MODELS WERE REVISED IN 1997 TO USE THIS TYPE.

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DAKTRONICS, INC. BROOKINGS, SD 57006

| | | | | |
|------|-----------|-----------------------------------|-------|-------|
| 2 | 27 MAR 97 | ADDED FIGURE FOR PC BOARD DIGIT. | AVB | AVB |
| 1 | 2 JAN 92 | CHANGED FROM "B" TO "A" SIZE DWG. | CFICK | |
| REV. | DATE | DESCRIPTION | BY | APPR. |

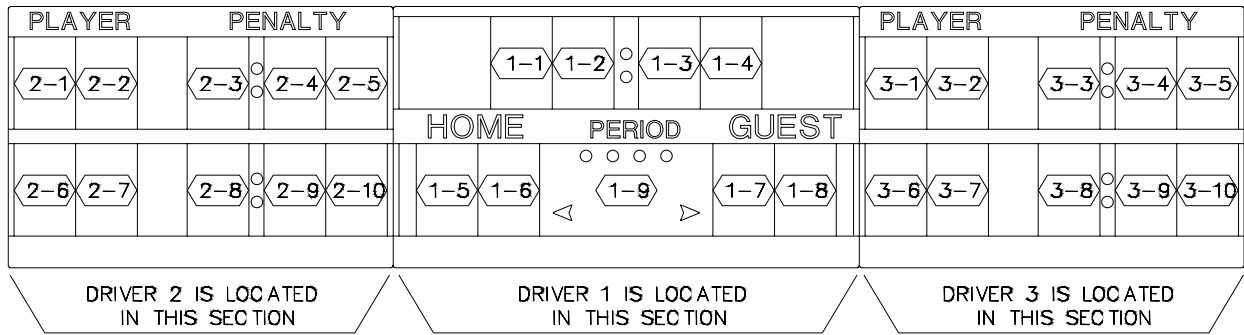
| | |
|--|---|
| PROJ: BASKETBALL | |
| TITLE: LAMP SERVICE, 7 SEGMENT BAR DIGIT | |
| DES. BY: | DRAWN BY: HEIDERSCHIEDT DATE: 5 JULY 89 |
| REVISION | APPR. BY: AVB |
| 02 | SCALE: 1=5 |
| 1009-R10A-38533 | |



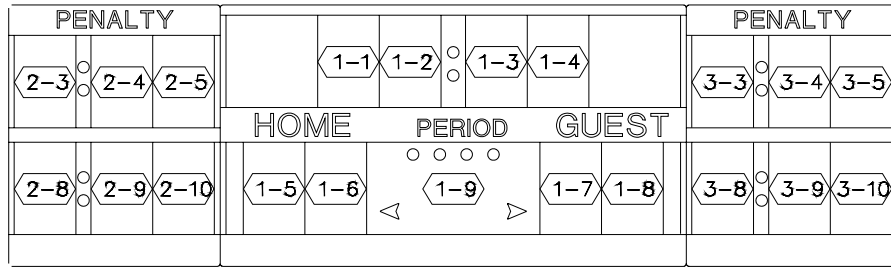
| | | | |
|--------------------------------------|---------------|-----------------|--|
| DAKTRONICS, INC. BROOKINGS, SD 57006 | | | |
| PROJ: HOCKEY | | | |
| TITLE: COMPONENT LOCATIONS, H-XX13B | | | |
| DES. BY: | DRAWN BY: JLH | DATE: 2 OCT 89 | |
| REVISION | APPR. BY: | 1010-R04A-39710 | |
| | SCALE: 1=20 | | |

| | | | | |
|------|----------|--|--------|-------|
| 1 | 7 NOV 91 | CHANGED FROM "B" TO "A" SIZE DWG, REDRAWN ON AUTO CAD, AND ADDED J101. | C FICK | |
| REV. | DATE | DESCRIPTION | BY | APPR. |

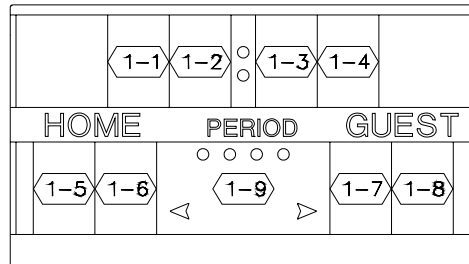
H-2813B



H-2013B

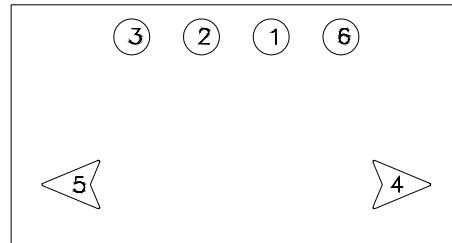


H-813B



ACCESS DOOR:

ALL INDICATORS ARE
CONNECTED TO
DRIVER 1, PLUG 9,
PIN NO. AS SHOWN.



DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: HOCKEY SCOREBOARDS

TITLE: DRIVER ASSIGNMENTS, H-XX13B

DES. BY: DRAWN BY: J HEIDERSCHIEDT DATE: 02 OCT 89

REVISION

APPR. BY:

SCALE: 1=30

1010-R04A-39711

| | | | | |
|------|---------|--------------------------|-----|-------|
| 1 | 15NOV95 | CHANGED TO A-SIZE BORDER | AVB | AVB |
| REV. | DATE | DESCRIPTION | BY | APPR. |

APPENDIX A: SCHEMATIC

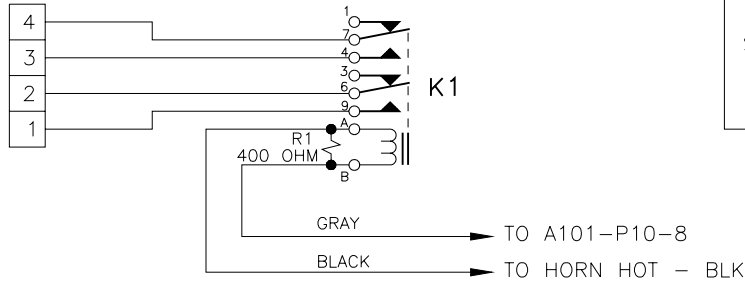
Reference Drawings: Schematic, Hockey Display..... **Drawing A-28380**

Drawing A-28380 is the schematic diagram of the power and signal inputs and all 120V wiring. The component numbers correspond to the **Drawing A-26762**.

DISCONNECT POWER BEFORE SERVICING DISPLAY.

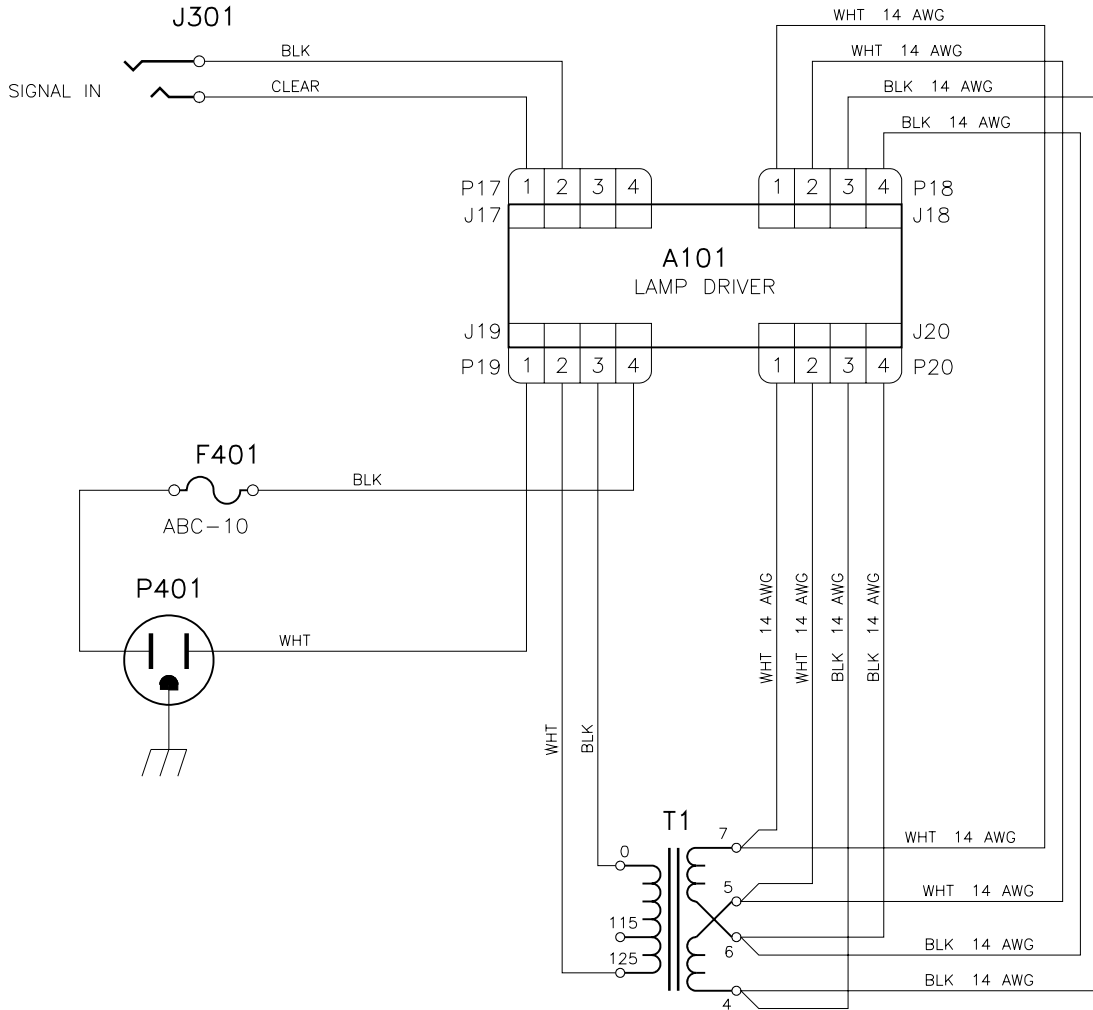
Disconnect power when the display is not in use. Prolonged power-on may shorten the lives of some electronic components.

J101



RELAY K1 AND JACK J101 ARE USED ONLY IN THE CENTER SECTION OF MODELS H-2013S, H-2013B, H-2813S, AND H-2813B

J301



| REV. | DATE | DESCRIPTION | BY | APPR. |
|------|------------|--|--------|-------|
| 4 | 11APR95 | ADDED WIRES FROM T1 TO A101-P18 AND TO A101-P20. | AVB | AVB |
| 3 | 06 JULY 93 | ADDED WIRES TO PIN 3 OF P18 & P20. | C FICK | |
| 2 | 20SEP91 | CHANGED FROM B TO A SIZE DWG. ADDED J101 AND K1. | C FICK | |

| | |
|---|-----------------|
| DAKTRONICS, INC. BROOKINGS, SD 57006 | |
| PROJ: HOCKEY SCOREBOARDS | |
| TITLE: SCHEMATIC, HOCKEY DISPLAY | |
| DES. BY: AVB | DATE: 15OCT86 |
| REVISION | APPR. BY: |
| SCALE: NONE | 1010-R03A-28380 |