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Section 1 : Introduction

1.1 How To Use This Manual

This manual explains the installation and maintenance of the Daktronics CH-2024V auto racing display system. Setup of other control equipment or operation of the CHTS-300 timing console are not covered in this manual. 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.

The box below illustrates Daktronics drawing numbering system. The drawing number “7087-P08A-69945” is how Daktronics identifies individual drawings. This number is located in the lower-right corner of the drawing. This manual refers to drawings 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 first section which references them.

![Daktronics Drawing Numbering System](image)

1.2 Display Overview

Reference Drawing: Display, CH-2024V ........................................ Drawing A-46493

Drawing A-46493 shows a Daktronics CH-2024V display. The CH-2024V display along with the use of the Daktronics CHTS-300 timing console can display the lap number or elapsed race time, the top eight racers, and the race status.
OVERALL DIMENSION: 204" H x 120" W x 6" D

WEIGHT: 750 LBS

POWER REQUIREMENTS: 120/240 VAC, 50 AMPS PER LINE, WITH 25W LAMPS
60 AMPS PER LINE, WITH 30W LAMPS

MAXIMUM POWER DEMAND: 10415 WATTS WITH 25W LAMPS
12425 WATTS WITH 30W LAMPS

DIGITS ARE 24" HIGH, 4 x 7 MATRICES, WITH 25W MED. BASE LAMPS, OR
30W FROSTED, 30R20 REFLECTOR LAMPS.

LAP & TIME INDICATOR LAMPS ARE 55W FLOOD LAMPS.
RACE STATUS INDICATOR LAMPS ARE 85W MISER FLOOD LAMPS.
Section 2 : Installation

2.1 General System

Reference Drawings:
- Footing & Beam, CH-2024V ........................................... Drawing A-46492
- System Layout, CH-2024V ........................................... Drawing A-46533
- Display Mounting, CH-2024V ...................................... Drawing A-46534
- Component Locations, CH-2024V ............................. Drawing A-46539
- Pwr&Sig Entrance Components ................................. Drawing A-46545
- Connector Plate, CH-2024V ....................................... Drawing A-46563
- Color Code, 25 Pin J-Box ......................................... Drawing A-47207
- Electrical Installation, CH-2024V .............................. Drawing A-47326

The CH-2024V display consists of three sections, the upper, middle and lower sections. Refer to Drawing A-46533 for the general system layout.

The general procedure for installing the CH-2024V display is as follows:

1. Select beam and footing recommendations from the table in Section 2.2.
2. Dig the footing holes and install the beams and the footings.
3. Route power and signal cables to the display and the control locations.
4. Mount the displays to the beams as described in Drawings A-46492 and A-46534 and Section 2.3.
5. Route power and signal wires into the displays as described in Drawings A-47326, A-46539, A-46545, A-46563 and A-47207 and Section 2.4.

2.2 Beam and Footing Selection

The table below contains recommendation for beams and footings to support your display. The first column is wind velocity in miles per hour. The distance in the second column is from the ground to the bottom of the display. The choice from these columns depends upon the display location.

<table>
<thead>
<tr>
<th>Wind Speed</th>
<th>Height (ft)</th>
<th>Beam Section</th>
<th>Footing Depth x Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>70 MPH</td>
<td>10</td>
<td>W 10x19</td>
<td>7 ½ ft x 3 ft</td>
</tr>
<tr>
<td>80 MPH</td>
<td>15</td>
<td>W 10x25</td>
<td>8 ¼ ft x 3 ft</td>
</tr>
<tr>
<td>90 MPH</td>
<td>10</td>
<td>W 10x25</td>
<td>8 ½ ft x 3 ft</td>
</tr>
<tr>
<td>100 MPH</td>
<td>15</td>
<td>W 14x26</td>
<td>9 ¼ ft x 3 ft</td>
</tr>
<tr>
<td>150 MPH</td>
<td>15</td>
<td>W 12x31</td>
<td>10 ½ ft x 3 ft</td>
</tr>
</tbody>
</table>

The beams listed are W-shape (wide flange) beams which provide maximum wind load strength for the weight and the cost of the beams.

The calculations for footing diameters and depths are based on the assumption that footings are in undisturbed soils, not fill soils. Lateral bearing capacity of 400 psf per foot of depth in natural grade was used to derive these figures.
These footing recommendations are based on an allowable soil bearing pressure of 4000 psf vertically and 400 psf/ft of depth horizontally. However, these recommendations are suggestions only and each installation should be treated individually. Be sure that the installation complies with local codes and is suitable for particular soil and wind conditions. Daktronics assumes no responsibility for structures installed by others. Daktronics recommends that W-sections of grade 36 steel be used for beams, and that 28-day (strength 4000 psi) concrete be used for footings.

### 2.3 Display Mounting

**Reference Drawings:** Display Mounting, CH-2024V .................[Drawing A-46534]

**Drawing A-46534** shows the typical mounting procedure for the display.

**Note:** The bolts that secure the display do not go through the beams, but run along both sides of the beams, clamping the display to the beams.

Mounting angles and 1/2" hardware are provided to mount your display.

1. Starting with the bottom display section, lift the display into place on the mounting beams.
2. Secure the bottom of the lower display section as shown in Steps 1 through 4 in Drawing A-46534.
3. Secure the top of the display section with the mounting angles and the 1/2" hardware.
4. Tighten all nuts securely.
5. Repeat the same procedure for the middle and upper sections, starting with the middle section next.

### 2.4 Electrical Installation

#### 2.4.1 Control Signal Cable

**Reference Drawings:** Component Locations, CH-2024V...[Drawing A-46539]
Pwr&Sig Entrance Components......[Drawing A-46545]
Color Code, 25 Pin J-Box...............[Drawing A-47207]

For the display, two conductors of 24 AWG are needed. For distances up to 600 ft. or 22 AWG, up to 1000 ft. are required. Daktronics has 24 AWG direct burial cable, Daktronics part no. W-1105 with 6 conductors, and 22 AWG cable that must be pulled through the conduit before burial, Daktronics part no. W-1077 with 2 conductors.

At the control location, mount the signal J-box to a convenient location. Route the cables and connect to the wires leading from the connector into the J-Box cover according to the table below and Drawing A-47207.

At the display’s bottom section, open the bottom hinged panel covering the entrance enclosure as shown in Drawing A-46539. Remove the cover from the entrance enclosure. **Refer to Drawing A-46545** for an illustration of the components inside the enclosure. Signal and power cables are routed into the rear of the display. There are two knockouts for the conduit connection in the back of the bottom section. Refer
to Drawing A-46539. Connect the signal wires to TB31 as indicated in the table below.

<table>
<thead>
<tr>
<th>Control End</th>
<th>Display End</th>
</tr>
</thead>
<tbody>
<tr>
<td>J-box Terminal No.</td>
<td>Wire Color</td>
</tr>
<tr>
<td>14</td>
<td>Red/Wht</td>
</tr>
<tr>
<td>15</td>
<td>Grn/Wht</td>
</tr>
<tr>
<td>16</td>
<td>Blue/Wht</td>
</tr>
<tr>
<td>17</td>
<td>Blk/Red</td>
</tr>
</tbody>
</table>

*Auxiliary display(s) require(s) a different output number(s). Consult your CHTS-300 console manual.

### 2.4.2 Power Wiring

**Reference Drawings:** Pwr&Sig Entrance Components ..... Drawing A-46545

The CH-2024V display requires a 120/240 VAC circuit, at 50 amps per line when equipped with 25W lamps, with a maximum current draw of 87 amps. When equipped with 30W lamps a 120/240 VAC circuit, at 60 amps per line, with a maximum current draw of 103 amps.

Route power wires into the display and connect to TB41 in the entrance enclosure, as shown in Drawing A-46545.

Connect the ground wires to E41 and to a ground rod near the display according to local codes.

### 2.4.3 Connection Between Sections

**Reference Drawing:** Component Locations, CH-2024V ..... Drawing A-46539  
Connector Plate, CH-2024V.............. Drawing A-46563

There are several digit harnesses located near a 3" hole at the bottom of the upper section and the top of the lower section that must be routed to the connector plate located at the bottom of the middle section as shown in Drawing A-46539.

1. Open the access doors and route these harnesses through the 3" holes provided at the top, bottom and middle of the middle section.
2. Remove the cover from the connector enclosure.
3. Connect the plugs on the digit harnesses to the mating jacks in the connector plate. Refer to Drawing A-46563.
4. Match the numbers on the plugs with the numbers next to the jacks in the connector plate.

Included with the digit harnesses is a 4-pin plug labeled "A1-17" (refer to Drawing A-46545) which is the signal to the lamp driver (A1). Also included is a 9-pin plug labeled "A1 Power" which is the power to the lamp driver "A1".

Connect the 4-Pin plug (A1-17) from the entrance to the 4-Pin jack located next to the connector panel. Connect the 9-pin plug labeled "A1 Power" to the 9-pin jack labeled "A1 Power" in the connector panel.
Power and signal wires from the lamp driver (A2) to the entrance are already connected.
A NOTE ABOUT BEAM NOMENCLATURE: FOR A TYPICAL BEAM, W10 X 21 FOR EXAMPLE, "W" STANDS FOR "WIDE-FLANGE BEAM". THE FIRST NUMBER (10) IS THE APPROXIMATE FRONT TO REAR DIMENSION OF THE BEAM IN INCHES. THE SECOND NUMBER (21) IS THE WEIGHT PER FOOT IN POUNDS. THIS NUMBERING IS STANDARD IN THE STEEL INDUSTRY. WIDTHS VARY FROM 10" TO 14" IN THIS CHART.

INFORMATION ON FOOTINGS IS NOT A SPECIFICATION, BUT A RECOMMENDATION ONLY, BASED ON ASSUMED SOIL BEARING PRESSURE OF 4000 LBS/FT².

SOIL BEARING PRESSURE AT THE SITE MUST BE DETERMINED BY A SAMPLE TEST PRIOR TO SPECIFYING ACTUAL FOOTINGS.

CHRONDEK ASSUMES NO RESPONSIBILITY FOR STRUCTURES INSTALLED BY OTHERS.
120/240 VAC, 50 AMPS PER LINE, WITH 25W LAMPS.
120/240 VAC, 60 AMPS PER LINE, WITH 30W, 30R20 REFLECTOR LAMPS.

CONTROL SIGNAL CABLE,
2 PAIR, 24 AWG OR 22 AWG,
24 AWG UP TO 600 FT,
22 AWG UP TO 1000 FT,
IN CONDUIT BY OTHERS OR DIRECT BURIAL.
MOUNTING PROCEDURE:

1.) Locate where center of the beams will be on back of the bottom display section.

2.) Drill 9/16" holes in the mtg channels on the back of the display at a distance of ± 3.50" or 4.50" from center of each beam.

3.) Lift bottom display section in place.

4.) Attach mounting angles and 1/2" hardware as shown above.

5.) Bottom display section can be slid up or down to the height required.

6.) Tighten all mounting hardware securely.

7.) Repeat steps 1 thru 4 to mount the middle and top section into place.

8.) Again, also tighten mounting hardware securely on middle and top sections.
A1 & A2 ARE ENCLOSED LAMP DRIVERS.
(COVERS REMOVED TO SHOW DRIVER)

REMOVE THESE (4) SCREWS TO REMOVE SCREEN FOR LAMP ACCESS. (TYPICAL)

KNOCKOUTS FOR 1/2" CONDUIT

POWER & SIGNAL ENTRANCE

NOTE:
FOUR HINGED ACCESS PANELS REMOVED TO SHOW LAMP DRIVERS, ENTRANCE ENCLOSURE AND DIGIT HARNESS CONNECTOR PANEL LOCATIONS.

LAMP DRIVER NO.

A1-6

DRIVER OUTPUT CONNECTOR NO.

(A1-15A) = LAMP DRIVER NO. AND CONNECTOR NO. WIRED TO THAT DIGIT.

(A1-15B) = LAMP DRIVER NO., CONNECTOR NO., AND PIN NO. WIRED TO THAT INDICATOR. SEGMENT (PIN) NO.
4-PIN JACK CONNECTS TO 4-PIN PLUG FROM LAMP DRIVER (A1) AT BOTTOM OF MIDDLE SECTION, FOR SIGNAL CONNECTION.

9-PIN PLUG CONNECTS TO 9-PIN JACK IN THE CONNECTOR PANEL LABELED "A1 POWER", TO PROVIDE POWER TO THE "A1" LAMP DRIVER.

REPLACE FUSES F41 THRU F46 WITH TYPE NO. FNW-20

CAUTION
THE NEUTRAL (WHITE) WIRE MUST GO TO THE CENTER TERMINALS OF THE TERMINAL BLOCK (TB41).
WARRANTY IS VOID IF DONE OTHERWISE.

FRONT VIEW

REAR VIEW

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: CHRONDEK DISPLAYS
TITLE: PWR & SIG ENTRANCE COMPONENTS, CH-2024V
DES: BY: DRAWN BY: CF
DATE: 13 MAR 91

REVISION APPRO. BY: CF
SCALE: 1=3

1081-R04A-46545
9-PIN JACK (TYP)

LAMP DRIVER NO.

LAMP DRIVER PLUG/DIGIT NO. THAT PLUGS INTO 9-PIN JACK.

FRONT VIEW
1.) Strip wire ends 1/4".
2.) Insert wire into connector.
3.) Squeeze connector securely onto wire end with pliers or crimping tool.

<table>
<thead>
<tr>
<th>PIN NO.</th>
<th>WIRE COLOR</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BLACK</td>
<td>PHOTO 1-N</td>
</tr>
<tr>
<td>2</td>
<td>WHITE</td>
<td>PWR 1-P</td>
</tr>
<tr>
<td>3</td>
<td>RED</td>
<td>GND 1-N</td>
</tr>
<tr>
<td>4</td>
<td>GREEN</td>
<td>PHOTO 2-N</td>
</tr>
<tr>
<td>5</td>
<td>ORANGE</td>
<td>PWR 2-P</td>
</tr>
<tr>
<td>6</td>
<td>BLUE</td>
<td>GND 2-N</td>
</tr>
<tr>
<td>7</td>
<td>WHITE/BLACK</td>
<td>PHOTO 3-N</td>
</tr>
<tr>
<td>8</td>
<td>RED/BLACK</td>
<td>PWR 3-P</td>
</tr>
<tr>
<td>9</td>
<td>GREEN/BLACK</td>
<td>GND 3-N</td>
</tr>
<tr>
<td>10</td>
<td>ORANGE/BLACK</td>
<td>PHOTO 4-N</td>
</tr>
<tr>
<td>11</td>
<td>BLUE/BLACK</td>
<td>PWR 4-P</td>
</tr>
<tr>
<td>12</td>
<td>BLACK/WHITE</td>
<td>GND 4-N</td>
</tr>
<tr>
<td>14</td>
<td>RED/WHITE</td>
<td>1 SIG-P</td>
</tr>
<tr>
<td>15</td>
<td>GREEN/WHITE</td>
<td>1 SIG-N</td>
</tr>
<tr>
<td>16</td>
<td>BLUE/WHITE</td>
<td>2 SIG-P</td>
</tr>
<tr>
<td>17</td>
<td>BLACK/RED</td>
<td>2 SIG-N</td>
</tr>
<tr>
<td>18</td>
<td>WHITE/RED</td>
<td>3 SIG-P</td>
</tr>
<tr>
<td>19</td>
<td>ORANGE/RED</td>
<td>3 SIG-N</td>
</tr>
<tr>
<td>22</td>
<td>BLUE/RED</td>
<td>4 SIG-P</td>
</tr>
<tr>
<td>23</td>
<td>RED/GREEN</td>
<td>4 SIG-N</td>
</tr>
<tr>
<td>13</td>
<td>ORANGE/GREEN</td>
<td>NOT USED</td>
</tr>
<tr>
<td>20</td>
<td>BLK/WHT/RED</td>
<td>NOT USED</td>
</tr>
<tr>
<td>21</td>
<td>WH/BLK/RED</td>
<td>NOT USED</td>
</tr>
<tr>
<td>24</td>
<td>RED/BLK/WHT</td>
<td>12 VAC</td>
</tr>
<tr>
<td>25</td>
<td>GRN/BLK/WHT</td>
<td>12 VAC</td>
</tr>
</tbody>
</table>

**SCOREBOARD SIGNAL OUTPUTS**

**PHOTOCELL POWER INPUTS**

**THESE PINS TYPICALLY NOT USED BY CHTS TIMER**
KNOCKOUTS FOR 1/2" CONDUIT PROVIDED

POWER WIRES

LOCKABLE POWER DISCONNECT (BY OTHERS)

GROUND WIRE

TO CONTROL LOCATION

SCOREBOARD MUST BE CONNECTED TO A GROUND ROD AT SCOREBOARD LOCATION.

DAKTRONICS, INC. BROOKINGS, SD 57006

PLOT: CHRONDEK DISPLAYS
TITLE: ELECTRICAL INSTALLATION, CH-2024V
DES. BY: CF DRAWN BY: CF DATE: 13 MAY 91

REV. DATE DESCRIPTION BY APPR.

REVISION APPR. BY: AVB 1=60

1081-R10A-47326
Section 3 : Maintenance & Troubleshooting

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

3.1 Lamp Replacement

Reference Drawing: Digit Service .......................................................... Drawing A-27674

The primary service required by the CH-2024V display is to replace burned-out lamps. Refer to Drawing A-27674 for an illustration of how to access the digit lamps for replacement. Standard replacement lamps for the digits are 120V, 25W frosted medium base and may be obtained at your local store or directly from Daktronics, part number DS-1029. Some displays may be equipped with 120V, 30W reflector type 30R20 lamps, Daktronics part number DS-1126.

The Lap/Time indicators use 120V, 55W clear flood lamps, type 55PAR38, Daktronics part number DS-1101.

The Status indicators use 120V, 85W flood lamps, type 85PAR38. The Daktronics part numbers are as follows:

<table>
<thead>
<tr>
<th>Color</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amber</td>
<td>DS-1184</td>
</tr>
<tr>
<td>Green</td>
<td>DS-1185</td>
</tr>
<tr>
<td>Red</td>
<td>DS-1186</td>
</tr>
</tbody>
</table>

Do not use lamps larger than those originally installed in the display. Using higher powered lamps will likely cause fuse failures in the display and could exceed the current levels that the display's circuits can safely handle.

3.2 Lamp Driver

Reference Drawings: Lamp Driver, 16 Col. W/ Fan ..................... Drawing A-37070
Component Locations, CH-2024V ... Drawing A-46539

In the display, the task of switching lamps on and off is performed by the lamp driver. Drawing A-46539 in Section 2 shows the location of the lamp drivers in the display. Drawing A-37070 is an illustration of the lamp driver and the fuses located in it.

The lamp driver has 22 connectors providing power and signal inputs and outputs to the digits. The functions of these connectors are as follows:

<table>
<thead>
<tr>
<th>Connector No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-16</td>
<td>Outputs to digits</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>17</td>
<td>Signal Input</td>
</tr>
<tr>
<td>18</td>
<td>Power input for outputs 1-8 (120V)</td>
</tr>
<tr>
<td>19</td>
<td>Power input for driver logic and fan (120V)</td>
</tr>
<tr>
<td>20</td>
<td>Power input for outputs 9-16 (120V)</td>
</tr>
<tr>
<td>24</td>
<td>Dim option selector</td>
</tr>
</tbody>
</table>

In **Drawing A-46539**, the numbers on the digits refer to the lamp driver output connector wired to each digit.

### 3.3 Digit Segmentation

**Reference Drawing:** Segments, 4x7 Lamp Matrix Digit............... **Drawing A-37685**

In a digit certain lamp always go on and off together. These groupings of lamps are known as "segments". Each digit has eight segments, referred by letters A through H. **Drawing A-37685** illustrates these segments and shows which connector pin and wire color is wired to each segment.

### 3.4 Schematic

**Reference Drawing:** Schematic, Pwr&Sig, CH-2024V ................. **Drawing A-46437**

Pwr&Sig Entrance Components .......................... **Drawing A-46545**

The schematic diagram in **Drawing A-46437** shows the power and signal inputs into the display and to the lamp driver. The component numbers correspond to those shown in **Drawing A-46545**.

### 3.5 Troubleshooting

This is a list of possible problems that may occur and their possible solutions.

<table>
<thead>
<tr>
<th>Observed Problem</th>
<th>Possible Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>One lamp won’t light</td>
<td>• Burned-out lamp</td>
</tr>
<tr>
<td></td>
<td>• Broken wire behind digit</td>
</tr>
<tr>
<td>Digit segment won’t light</td>
<td>• Broken wire</td>
</tr>
<tr>
<td></td>
<td>• Poor contact at driver connector</td>
</tr>
<tr>
<td></td>
<td>• Internal driver malfunction</td>
</tr>
<tr>
<td>Entire digit won’t light</td>
<td>• Broken wire</td>
</tr>
<tr>
<td></td>
<td>• Poor contact at connector, pin 7</td>
</tr>
<tr>
<td></td>
<td>• Fuse blown in driver</td>
</tr>
<tr>
<td>Half the display won’t light</td>
<td>• Service breaker tripped</td>
</tr>
<tr>
<td></td>
<td>• Main fuse blown</td>
</tr>
<tr>
<td></td>
<td>• Poor contact at main power connection</td>
</tr>
<tr>
<td></td>
<td>• P18 disconnected</td>
</tr>
</tbody>
</table>
### Entire display won’t light
- Power disruption
- Poor signal connection
- Driver logic fuse blown
- Control not connected to display
- P20 disconnected

### Segment stays lit
- Broken wire behind digit
- Internal driver malfunction

### Garbled display
- Control malfunction
- Internal driver malfunction

If a problem is observed in one digit, the cause may be isolated by swapping plugs on the driver (connect the plug from the digit into a different jack). If the same digit shows the same problem, the cause may be in the digit or the wiring. If the problem moves to another digit, then the cause is probably an internal driver problem.

Use a volt meter at driver inputs to determine if power is being supplied to the driver. An ohmmeter can be helpful in finding broken wires and bad connections. Internal electronic problems must be corrected by Daktronics or an authorized service center.

### 3.6 Replacement Parts

<table>
<thead>
<tr>
<th>Part Number of Description</th>
<th>Type</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamp Driver</td>
<td></td>
<td>0A-1033-0122</td>
</tr>
<tr>
<td>J-Box, CHTS-300 Timer</td>
<td></td>
<td>0A-1067-0056</td>
</tr>
<tr>
<td>Fuse, Main Power, 20A</td>
<td>FNW-20</td>
<td>F-1016</td>
</tr>
<tr>
<td>Fuse, Lamp Driver, 10A</td>
<td>AGC-10</td>
<td>F-1006</td>
</tr>
<tr>
<td>Fuse, Driver Logic, 1/2A</td>
<td>AGC-1/2</td>
<td>F-1000</td>
</tr>
<tr>
<td>Digit Lampbank, 24” 4x7</td>
<td></td>
<td>0A-1027-0071</td>
</tr>
<tr>
<td>Digit Screen, 24” 4x7</td>
<td></td>
<td>0S-1064-0002</td>
</tr>
<tr>
<td>Socket, Med. Base</td>
<td></td>
<td>X-1046</td>
</tr>
<tr>
<td>Lamp, 25W Frosted</td>
<td></td>
<td>DS-1029</td>
</tr>
<tr>
<td>Lamp 30W Reflector</td>
<td>30R20</td>
<td>DS-1126</td>
</tr>
<tr>
<td>Lamp, 55W Clear Flood</td>
<td>85PAR38</td>
<td>DS-1101</td>
</tr>
<tr>
<td>Lamp, 85W Amber Flood</td>
<td>85PAR38</td>
<td>DS-1184</td>
</tr>
<tr>
<td>Lamp, 85W Green Flood</td>
<td>85PAR38</td>
<td>DS-1185</td>
</tr>
<tr>
<td>Lamp, 85W Red Flood</td>
<td>85PAR38</td>
<td>DS-1186</td>
</tr>
</tbody>
</table>

### 3.7 Unit Exchange/Replacement Procedure

Daktronics unique exchange program offers our clients the quickest, most economical way of receiving product repairs. If a component fails, Daktronics will send the customer a replacement. The customer, in turn, sends the failed component to Daktronics. This not only saves money but decreases the time the display is inoperable. Daktronics offers repair and return on a timely basis; in urgent situations, every attempt is made to ship by the fastest transit method available.

1. **Packaging for Return:** Package and pad the item well to prevent damage during shipment. Electronic components, such as printed circuit boards, should either be installed in an enclosure or placed in an anti-static bag before boxing.
Please enclose your name and address along with a list of all the symptoms. Please be as specific as possible.

2. **Driver Packaging Instructions:** Drivers should be placed in a static-free enclosure for return shipping. An anti-static convoluted foam packing is available from Daktronics (part number PK-1135). The shipping box (Daktronics part number PK-1006) should be used along with the foam.

3. **Where to Send:** Contact your local representative prior to shipment to acquire a Return Material Authorization Number (RMA#). This will speed up the repair of your unit.

When returning defective items under the exchange program, please use the UPS Blue Return Tags found in the package containing the exchange unit sent from Daktronics. This will speed up the transaction and help avoid confusion when the part is returned to Daktronics. **The defective item must be returned within 15 days of receiving a replacement part.** Using the UPS Blue Return Tag immediately will eliminate the possibility of late charges being assessed against your account.

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

**Phone:** Toll Free: 1-800-843-9879  
or 1-605-697-4400

**Customer Service Fax:** 1-605-697-4444

**E-Mail:** helpdesk@daktronics.com
F1 THRU F16 ARE TYPE AGC-10, DAKTRONICS PART NUMBER F-1006.
F17 IS TYPE AGC-1/2, DAKTRONICS PART NUMBER F-1000.
4 x 7 LAMP MATRIX DIGIT

CONNECTOR PIN NUMBER WIRED TO THAT SEGMENT

COLOR CODE

<table>
<thead>
<tr>
<th>PIN NO.</th>
<th>WIRE COLOR</th>
<th>DRIVER SEGMENT</th>
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<tbody>
<tr>
<td>1</td>
<td>ORANGE</td>
<td>C</td>
</tr>
<tr>
<td>2</td>
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<td>BROWN</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>BLUE</td>
<td>F</td>
</tr>
<tr>
<td>5</td>
<td>GRN OR PNK</td>
<td>E</td>
</tr>
<tr>
<td>6</td>
<td>YEL OR TAN</td>
<td>D</td>
</tr>
<tr>
<td>7</td>
<td>BLACK</td>
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<td>GRAY</td>
<td>H</td>
</tr>
<tr>
<td>9</td>
<td>VIOLET</td>
<td>G</td>
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</table>
F41 THRU F46 ARE TYPE NO. FNW-20.
A3 IS 2-POLE SURGE SUPPRESSOR.