



Auto Racing Display Model CH-1018H

Installation & Service Manual

ED 6581

**ED 6581
Project# 1081
Rev. 3 - 06 August, 1998**

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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-1018H 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.

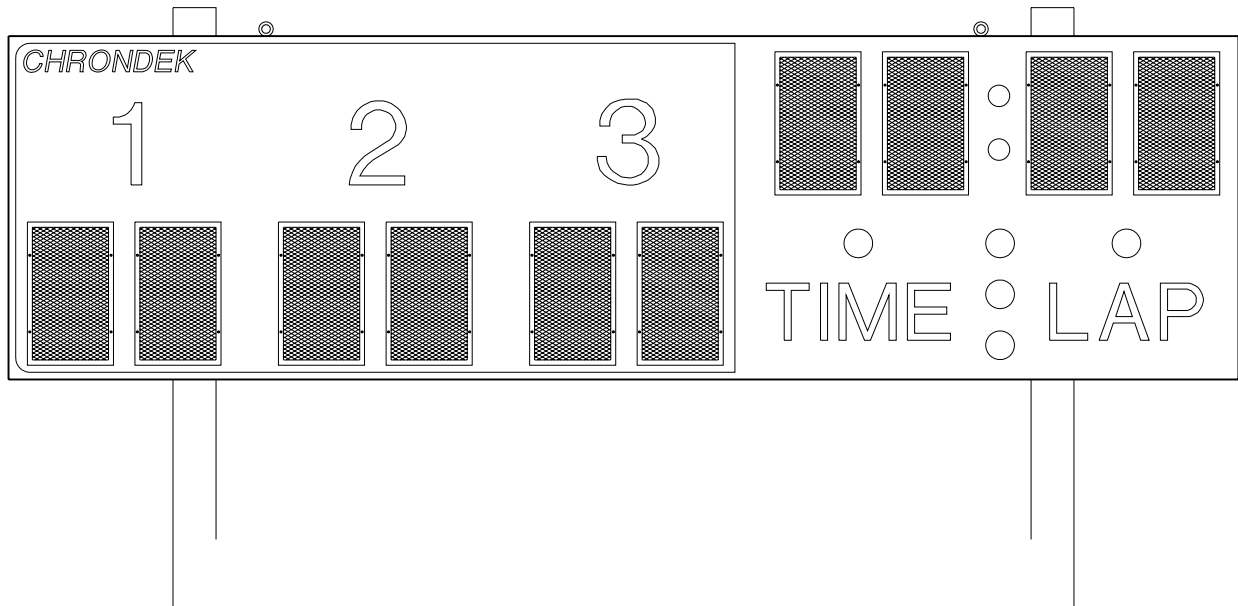
The box below illustrates Daktronics drawing numbering system. The drawing number “7087-P08A-69945” is how Daktronics identifies individual drawings. This number is located in the lower-right corner of the drawing. This manual refers to drawings by listing the last set of digits and the letter preceding 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, 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 Display Overview

Reference Drawing: Display, CH-1018H..... **Drawing A-51504**

Drawing A-51504 shows a Daktronics CH-1018H display. The CH-1018H display along with the use of the Daktronics CHTS-300 timing console will display the lap number and lap time on the display.



OVERALL DIMENSIONS: 48" H x 172" W x 6" D

WEIGHT: 300 LBS.

POWER REQUIREMENTS: 120/240 VAC, 40 AMPS PER LINE

MAXIMUM POWER DEMAND: 6425 WATTS

DIGITS ARE 18" HIGH, 4 x 7 MATRICES, WITH 30W CLEAR OR 30W FROSTED LAMPS.

LAP & TIME INDICATOR LAMPS ARE 55W FLOOD LAMPS.

RACE STATUS INDICATOR LAMPS ARE 85W MISER FLOOD LAMPS.

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: CHRONDEK	
TITLE: DISPLAY, CH-1018H	
DES. BY:	DRAWN BY: C FICKBOHM DATE: 7 MAY 92
REVISION	APPR. BY:
	SCALE: 1=25
1081-R08A-51504	

REV.	DATE	DESCRIPTION	BY	APPR.

Section 2: Mechanical/Electrical Installation

2.1 General System

Reference Drawings:

Driver Enclosure, Power & Signal	Drawing A-37915
Mounting Instructions.....	Drawing A-38856
Color Code, 25-Pin J-Box	Drawing A-47207
System Layout, CH-1018H	Drawing A-51505
Component Locations, CH-1018H	Drawing A-51511
Electrical Installation, CH-1018H	Drawing A-51519
Footing & Beams, CH-1018H.....	Drawing A-51520

Refer to **Drawing A-51505** for a general system layout.

The general procedure for installing the CH-1018H display is as follows:

1. Select beam and footing recommendations from the table below.
2. Dig the footing holes and install beams and footings.
3. Route power and signal cables to the display and control locations.
4. Mount the displays to the beams as described in **Section 2.3** and **Drawings A-38856** and **A-51520**.
5. Route power and signal wires into the displays as described in **Section 2.4** and **Drawings A-37915, A-47207, A-51511, and A-51519**.

2.2 Beam and Footing Selection

Reference Drawing: Footing and Beams, CH-1018H **Drawing A-51520**

The table below contains recommendations for W-shape beams and footings to support the display as shown in **Drawing A-51520**. 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.

The beams listed below are beams which provide maximum wind load strength for the weight and cost of the beams.

Wind Speed	Height (ft)	Beam Section	Footing Depth x Dia.
70 mph	10	W8 x 15	4 ¾ ft x 3 ft
	15	W6 x 20	5 ½ ft x 3 ft
80 mph	10	W8 x 15	5 ½ ft x 3 ft
	15	W8 x 20	6 ¾ ft x 3 ft
90 mph	10	W8 x 17	6 ¼ ft x 3 ft
	15	W8 x 24	7 ft x 3 ft

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 300 psf per foot of depth in natural grade was used to derive these figures.

The footing recommendations are based on the allowable soil bearing pressure of 3000 psf vertically and 300 psf/ft of depth horizontally. However, these recommendations *are suggestions only* and soil bearing pressure at the site must be determined by a sample test prior to specifying actual footings. Be sure that the installation complies with local codes and is suitable for the particular soil and wind conditions. *Daktronics assumes no responsibility for structures installed by others.* Daktronics recommends that W-sections of grade 35 steel be used for beams, and that 28-day (strength 3000 psi) concrete be used for footings.

A note about beam nomenclature: For a typical beam, W6 x 12 for example "W" stands for "Wide-Flange Beam". The first number (6) is the approximate front to rear dimension of the beam in inches. The second number (12) is the weight per foot in pounds. This numbering is a standard in the steel industry. Widths are from 6.00 to 8.00 inches in the chart above.

2.3 Display Mounting

Reference Drawing: Mounting Instructions **Drawing A-38856**

Drawing A-38856 shows the typical mounting for the display.

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

A mounting kit consisting of mounting angles and 1/2" hardware are provided to mount the display.

Position the display against the mounting beams and secure the bottom of the display to both beams as shown. Next, secure the top of the display. Once mounting angles are attached, the display may be slid up or down to the desired height. Once positioned as desired, tighten all bolts.

2.4 Electrical Installation

2.4.1 Control Signal Cable

Reference Drawings: Driver Enclosure, Power & Signal.... **Drawing A-37915**
Color Code, 25-Pin J-Box **Drawing A-47207**
Component Locations, CH-1018H ... **Drawing A-51511**

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 in the cover according to the table below and **Drawing A-47207**.

At the display, open the bottom hinged panel covering the entrance enclosure as shown on **Drawing A-51511**. Remove the cover from the entrance enclosure. Refer

to **Drawing A-37915** for an illustration of the components inside the entrance enclosure. Connect the signal wires to TB31 as indicated in the table below.

Control End			Display End
J-box Terminal No.	Wire Color	Output No.	TB31 Terminal No.
14	Red/Wht	1*	1 (+)
15	Grn/Wht		2 (-)

*Auxiliary display(s) require(s) a different output no.(s). Consult your CHTS-300 console manual.

2.4.2 Power Wiring

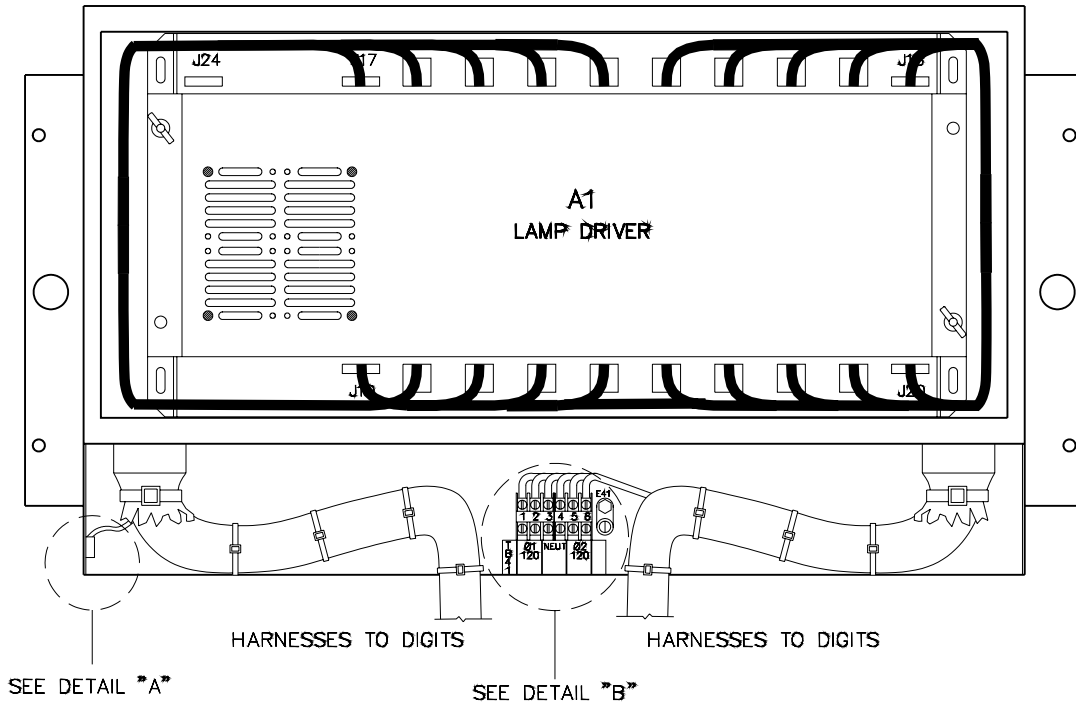
Reference Drawing: Driver Enclosure, Power & Signal..... **Drawing A-37915**
Electrical Installation **Drawing A-51519**

A 120/240 VAC circuit (two hot lines, one neutral, plus a ground) must be run into a load center. Refer to **Drawing A-51519**. With all lamps lighted, this display is capable of drawing a maximum of 40 amps on one line and 14 amps on the other line.

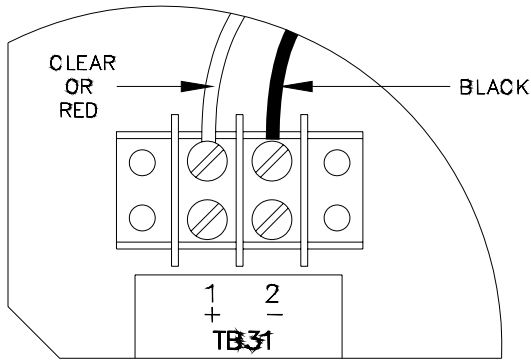
Route four "hot", two "neutral", and one "ground" wire of 12 AWG from the load center (**Drawing A-51519**) to the driver enclosure (**Drawing A-37915**) in the display. Refer to **Drawing A-37915** for component locations at the driver. Connect the ground wire to terminal E41. Connect the two neutral wires to TB41-3 and TB41-4. Connect the hot wires to the load center and display as in the example below.

Load Center Breaker No.	Display Terminal No.
1	TB41-1
2	TB41-2
3	TB41-5
4	TB41-6

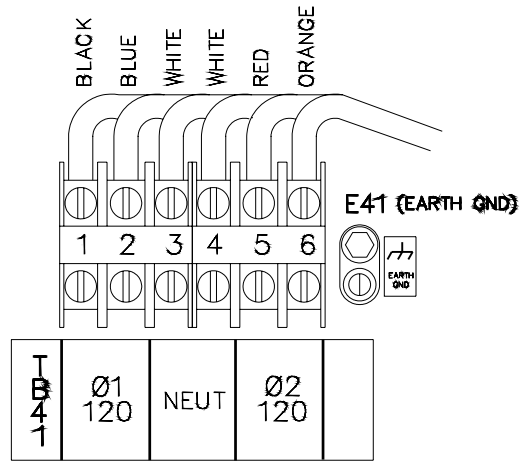
Note: Breaker numbers are examples only. Breaker numbers may be assigned as required. The objective is to have TB41-1 & TB41-2 on line 1. TB41-5 & TB41-6 should be on line 2.



FRONT VIEW (COVER REMOVED)

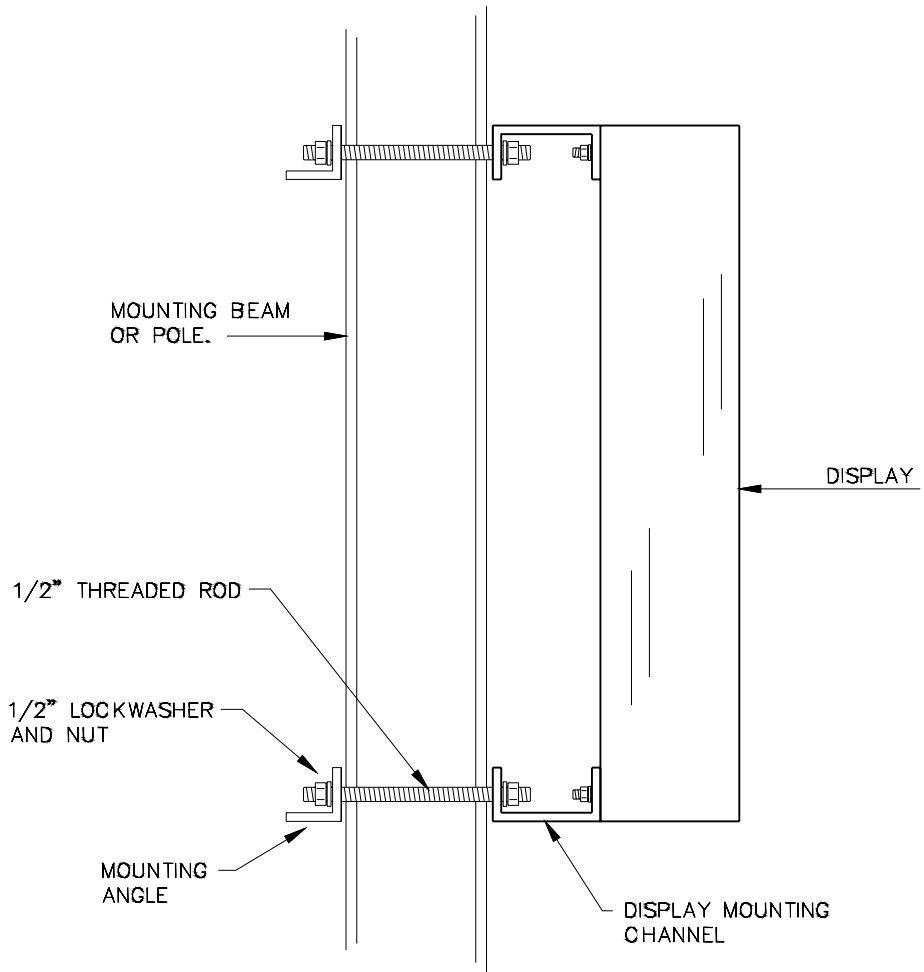


D
A
DETAIL "A" (SIGNAL)



D
B
DETAIL "B" (POWER)

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: CHRONDEK DISPLAYS				
TITLE: DRIVER ENCLOSURE, POWER & SIGNAL				
DES. BY: T. WOODARD		DRAWN BY: T. WOODARD		DATE: 10 MAY 89
1	8 MAR 91	ADDED E41 AND CHANGED FROM "B" TO "A" SIZE DWG.	CF	CF
REV.	DATE	DESCRIPTION	BY	APPR.
REVISION		APPR. BY:	1081-R08A-37915	
SCALE: 1=5				

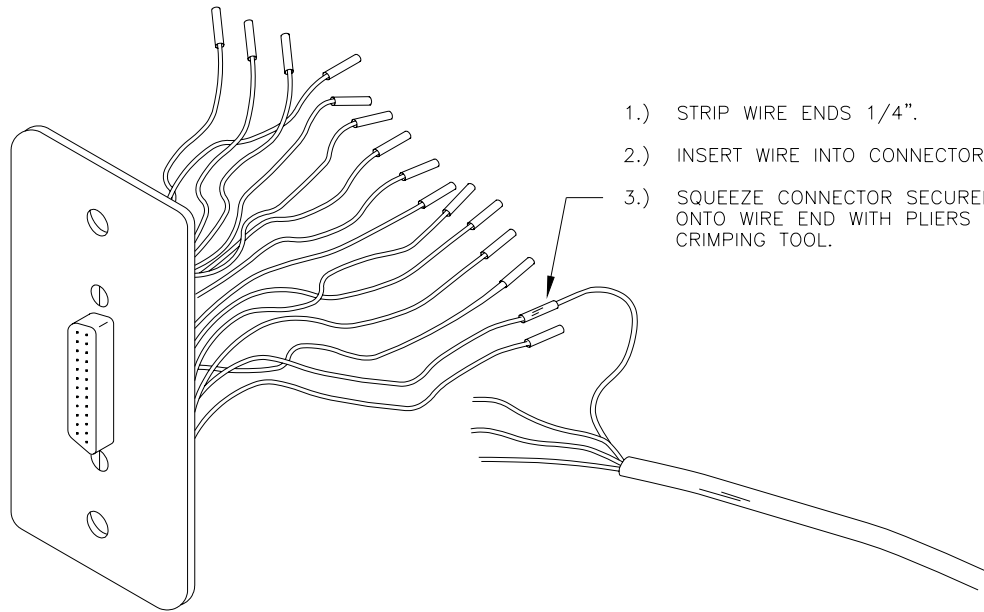


SIDE VIEW

MOUNTING INSTRUCTIONS:

- 1.) LOCATE WHERE THE CENTER OF THE BEAMS WILL BE ON THE BACK OF THE DISPLAY.
- 2.) DRILL $\frac{9}{16}$ " HOLES IN THE MTO CHANNEL ON THE BACK OF THE DISPLAY AT A DISTANCE OF ± 3.50 " OR 4.50 " FROM THE CENTER OF EACH BEAM.
- 3.) LIFT THE DISPLAY IN PLACE.
- 4.) ATTACH MOUNTING HARDWARE AS SHOWN ABOVE.
- 5.) DISPLAY CAN BE SLID UP OR DOWN TO THE HEIGHT REQUIRED.
- 6.) TIGHTEN ALL MOUNTING HARDWARE SECURELY.

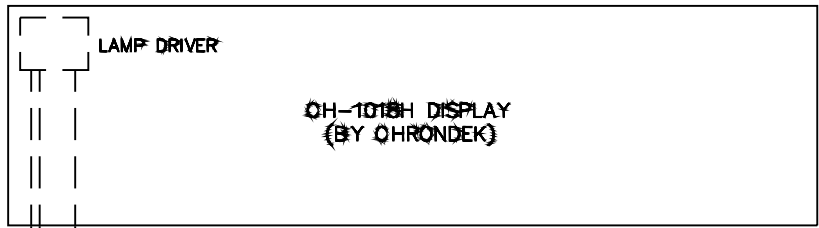
8	16APR98	CHANGED MODEL NO. CH-1421-GP TO CH-1421-H AND ADDED MODEL NO. CH-1521-H TO TITLE BLOCK.	TWEBER		DAKTRONICS, INC. BROOKINGS, SD 57006	
7	29 APR 93	REMOVED LIST OF MODELS THIS MOUNTING TYPICAL FOR.	C FICK		PROJ: CHRONDEK DISPLAYS	
6	9 JUN 92	CHANGED MODEL NO. "CH-21-HSM" TO "CH-1421-GP" IN DWG TITLE.	C FICK		TITLE: MOUNTING INSTRUCTIONS, CH-1421-H & CH-1521-H	
REV.	DATE	DESCRIPTION	BY	APPR.	DES. BY: JLH	DRAWN BY: JLH
					DATE: 24 JUL 89	
					REVISION	APPR. BY: AVB
						SCALE: 1=1
					1081-R08A-38856	



- 1.) STRIP WIRE ENDS 1/4".
- 2.) INSERT WIRE INTO CONNECTOR.
- 3.) SQUEEZE CONNECTOR SECURELY ONTO WIRE END WITH PLIERS OR CRIMPING TOOL.

PIN NO.	WIRE COLOR	FUNCTION	
1	BLACK	PHOTO 1-N	PHOTOCELL POWER INPUTS
2	WHITE	PWR 1-P	
3	RED	GND 1-N	
4	GREEN	PHOTO 2-N	
5	ORANGE	PWR 2-P	
6	BLUE	GND 2-N	
7	WHITE/BLACK	PHOTO 3-N	
8	RED/BLACK	PWR 3-P	
9	GREEN/BLACK	GND 3-N	
10	ORANGE/BLACK	PHOTO 4-N	
11	BLUE/BLACK	PWR 4-P	
12	BLACK/WHITE	GND 4-N	
14	RED/WHITE	1 SIG-P	SCOREBOARD SIGNAL OUTPUTS
15	GREEN/WHITE	1 SIG-N	
16	BLUE/WHITE	2 SIG-P	
17	BLACK/RED	2 SIG-N	
18	WHITE/RED	3 SIG-P	
19	ORANGE/RED	3 SIG-N	
22	BLUE/RED	4 SIG-P	
23	RED/GREEN	4 SIG-N	
13	ORANGE/GREEN	NOT USED	THESE PINS TYPICALLY NOT USED BY CHTS TIMER
20	BLK/WHT/RED	NOT USED	
21	WHT/BLK/RED	NOT USED	
24	RED/BLK/WHT	12 VAC	
25	GRN/BLK/WHT	12 VAC	

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: CHRONDEK				
TITLE: COLOR CODE, 25-PIN J-BOX				
DES. BY: CF		DRAWN BY: CF		DATE: 1 MAY 91
2	10MAR97	ADDED WIRES TO PINS 13,20,21,24,25	EB	
1	4 JUN 92	CHANGED "SIGNAL INPUTS" TO "SIGNAL OUTPUTS"	C FICK	
REVISION	DATE	DESCRIPTION	BY	APPR.
APPR. BY: AVB			1067-R10A-47207	
SCALE: 1=2				

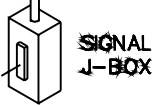
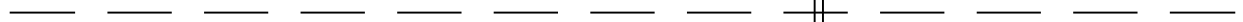


LOCKABLE WEATHERPROOF
LOAD CENTER WITH MAIN
DISCONNECT (BY OTHERS)

CONTROL SIGNAL CABLE,
1 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.

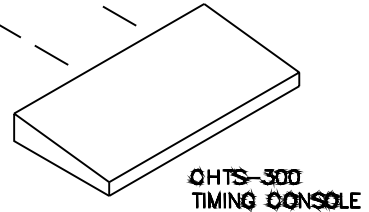
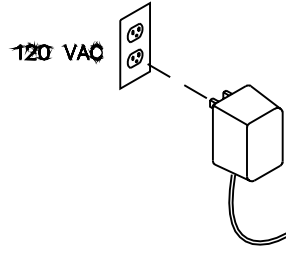
120/240 VAC, 40 AMPS PER LINE

DISPLAY LOCATION



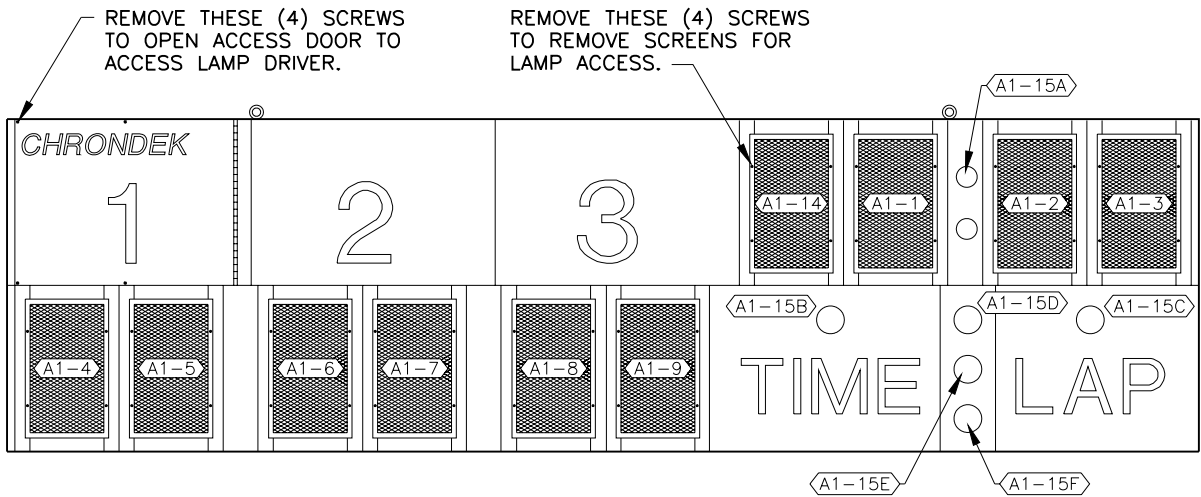
SIGNAL
CABLE

CONTROL LOCATION



DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: CHRONDEK DISPLAYS			
TITLE: SYSTEM LAYOUT, CH-1018H			
DES. BY:	DRAWN BY: C FICKBOHM	DATE: 7 MAY 92	
REVISION	APPR. BY:	1081-R04A-51505	
	SCALE: 1=1		

1	25 MAY 93	REMOVED LOCKABLE SAFETY DISCONNECT. ADDED MAIN DISCONNECT TO LOAD CENTER.	C FICK	
REV.	DATE	DESCRIPTION	BY	APPR.



LAMP DRIVER NO. → A1-7 = LAMP DRIVER CONNECTOR NO. WIRED TO THAT DIGIT.

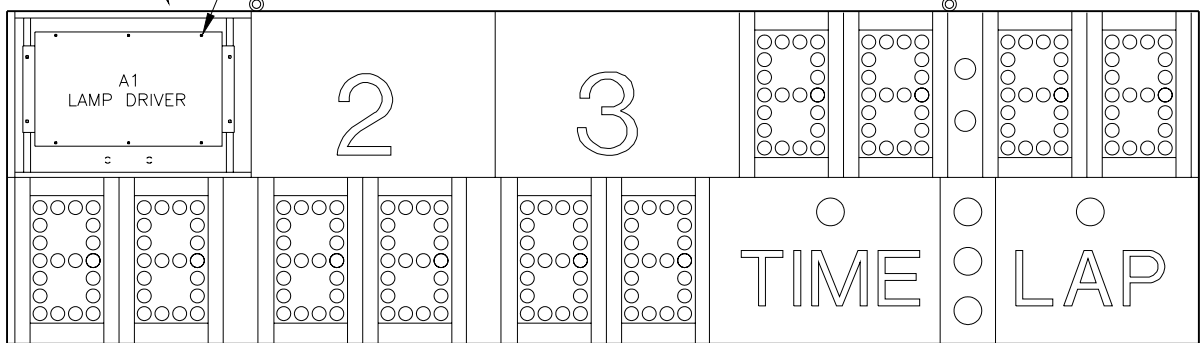
DRIVER OUTPUT CONNECTOR NO. →

LAMP DRIVER NO. → A1-15E = LAMP DRIVER CONNECTOR AND PIN NO.

DRIVER OUTPUT CONNECTOR NO. AND SEGMENT NO. →

HINGED ACCESS DOOR REMOVED TO SHOW DRIVER LOCATION.

REMOVE THESE (6) SCREWS TO ACCESS DRIVER AND POWER & SIGNAL ENTRANCE COMPONENTS.



DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: CHRONDEK

TITLE: COMPONENT LOCATIONS, CH-1018H

DES. BY:

DRAWN BY: C FICKBOHM

DATE: 7 MAY 92

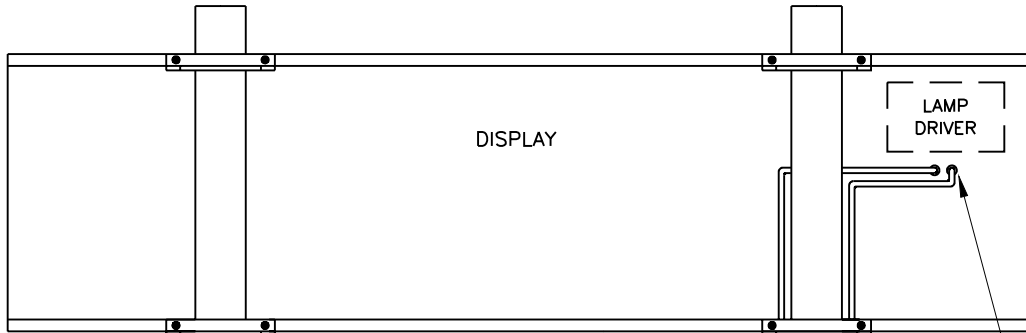
REVISION

APPR. BY:

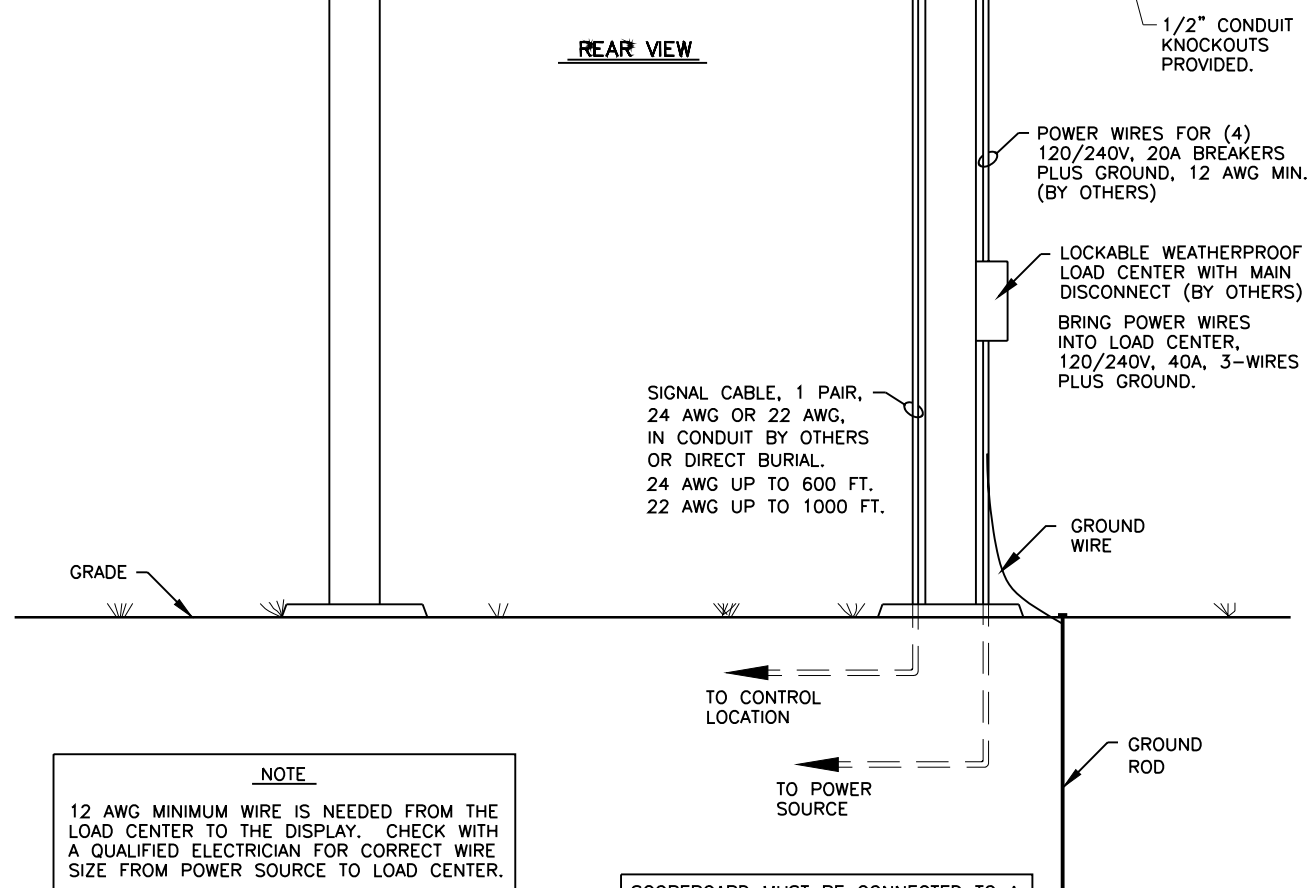
SCALE: 1=25

1081-R08A-51511

REV.	DATE	DESCRIPTION	BY	APPR.



REAR VIEW

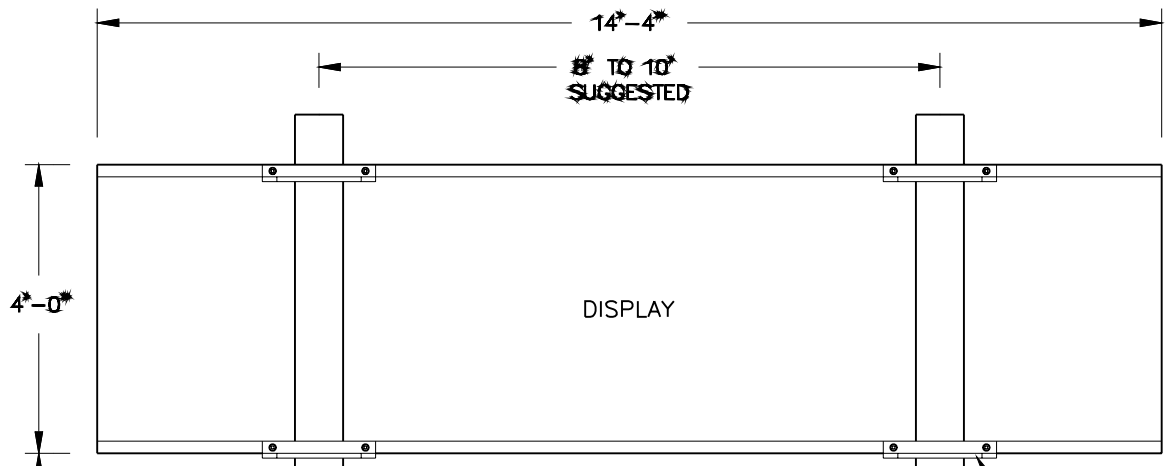


NOTE
 12 AWG MINIMUM WIRE IS NEEDED FROM THE LOAD CENTER TO THE DISPLAY. CHECK WITH A QUALIFIED ELECTRICIAN FOR CORRECT WIRE SIZE FROM POWER SOURCE TO LOAD CENTER.

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

DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: CHRONDEK DISPLAYS	
TITLE: ELECTRICAL INSTALLATION, CH-1018H	
DES. BY: CF	DRAWN BY: C FICKBOHM
DATE: 8 MAY 92	
REVISION	APPR. BY:
1=40	1081-R10A-51519

1	25 MAY 93	REMOVED LOCKABLE SAFETY DISCONNECT. ADDED MAIN DISCONNECT TO LOAD CENTER.	C FICK	
DATE	DESCRIPTION	BY	APPR.	



REAR VIEW

MOUNTING ANGLE AND
1/2" HARDWARE @ 4
(BY CHRONDEK)

HEIGHT
AS REQUIRED

STEEL BEAM
COLUMN @ 2
(SEE FOOTING
& BEAM CHART)

GRADE

FOOTING DEPTH
SEE CHART

REINFORCED
CONCRETE
FOOTING

FOOTING
DIAMETER
SEE CHART

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: CHRONDEK DISPLAYS			
TITLE: FOOTING AND BEAMS, CH-1018H			
DES. BY:		DRAWN BY: C FICKBOHM	
		DATE: 8 MAY 92	
REVISION	APPR. BY:	1081-R08A-51520	
	SCALE: NONE		

REV.	DATE	DESCRIPTION	BY	APPR.

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-1018H 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, 30W frosted medium base and may be obtained at your local store or directly from Daktronics, part number DS-1182. Some displays may be equipped with 120V, 30W clear lamps, Daktronics part number DS-1076.

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:

Color	Part Number
Amber	DS-1184
Green	DS-1185
Red	DS-1186

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-1018H **Drawing A-51511**

In the display, the task of switching lamps on and off is performed by the lamp driver. **Drawing A-51511** in **Section 2** shows the location of the lamp driver 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 digits. The functions of these connectors are as follows:

Connector Number	Function
1-16	Outputs to digits
17	Signal Input
18	Power input for outputs 1-8 (120 V)
19	Power input for driver logic and fan (120V)
20	Power input for outputs 9-16 (120V)
24	Dim option selector

In **Drawing A-51511**, 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 lamps always go on and off together. These groupings of lamps are known as "segments". Each digit has eight segments, referred to 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 Drawings: Driver Enclosure, Power & Signal **Drawing A-37915**
 Schematic, Pwr & Sig, CH-21GP **Drawing A-38788**

The schematic diagram in **Drawing A-38788** shows the power and signal inputs into the display and to the lamp driver. The component numbers correspond to those shown in **Drawing A-37915** in **Section 2**.

3.5 Troubleshooting

This section lists some symptoms that may be encountered with the CH-1018H display. For these symptoms, possible causes and corrective actions are indicated. This list does not include every possible problem, but does represent some of the more common situations that may occur.

Observed Problem	Possible Cause
One lamp won't light	<ul style="list-style-type: none"> • Burned-out lamp • Broken wire behind digit
Digit segment won't light	<ul style="list-style-type: none"> • Broken wire • Poor contact at driver connector • Internal driver malfunction
Entire digit won't light	<ul style="list-style-type: none"> • Broken wire (black) • Poor contact at connector, pin 7 • Fuse blown in driver
Half the display won't light	<ul style="list-style-type: none"> • Service breaker tripped

	<ul style="list-style-type: none"> • Main fuse blown • Poor contact at main power connection • P18 disconnected
Entire display won't light	<ul style="list-style-type: none"> • Power disruptions • Poor signal connection • Driver logic fuse blown • Control not connected to display • P20 disconnected
Segment stays lit	<ul style="list-style-type: none"> • Broken wire behind digit • Internal driver malfunction
Garbled display	<ul style="list-style-type: none"> • 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 correct by Daktronics or an authorized service center.

3.6 Replacement Parts

Part Name or Description	Type	Part Number
Lamp Driver		0A-1033-0122
J-Box, CHTS-300 Timer		0A-1067-0056
Fuse, Lamp Driver, 10A	AGC-10	F-1006
Fuse, Driver Logic, 1/2A	AGC-1/2	F-1000
Digit Lampbank, 18" 4x7		0A-1027-0071
Digit Screen, 18" 4x7		0S-1064-0001
Socket, Med. Base		X-1046
Lamp, 30W Frosted		DS-1182
Lamp, 30W Clear	30A15	DS-1076
Lamp, 55W Clear Flood	55PAR38	DS-1101
Lamp, 85W Amber Flood	85PAR38	DS-1184
Lamp, 85W Green Flood	85PAR38	DS-1185
Lamp, 85W Red Flood	85PAR38	DS-1186

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.

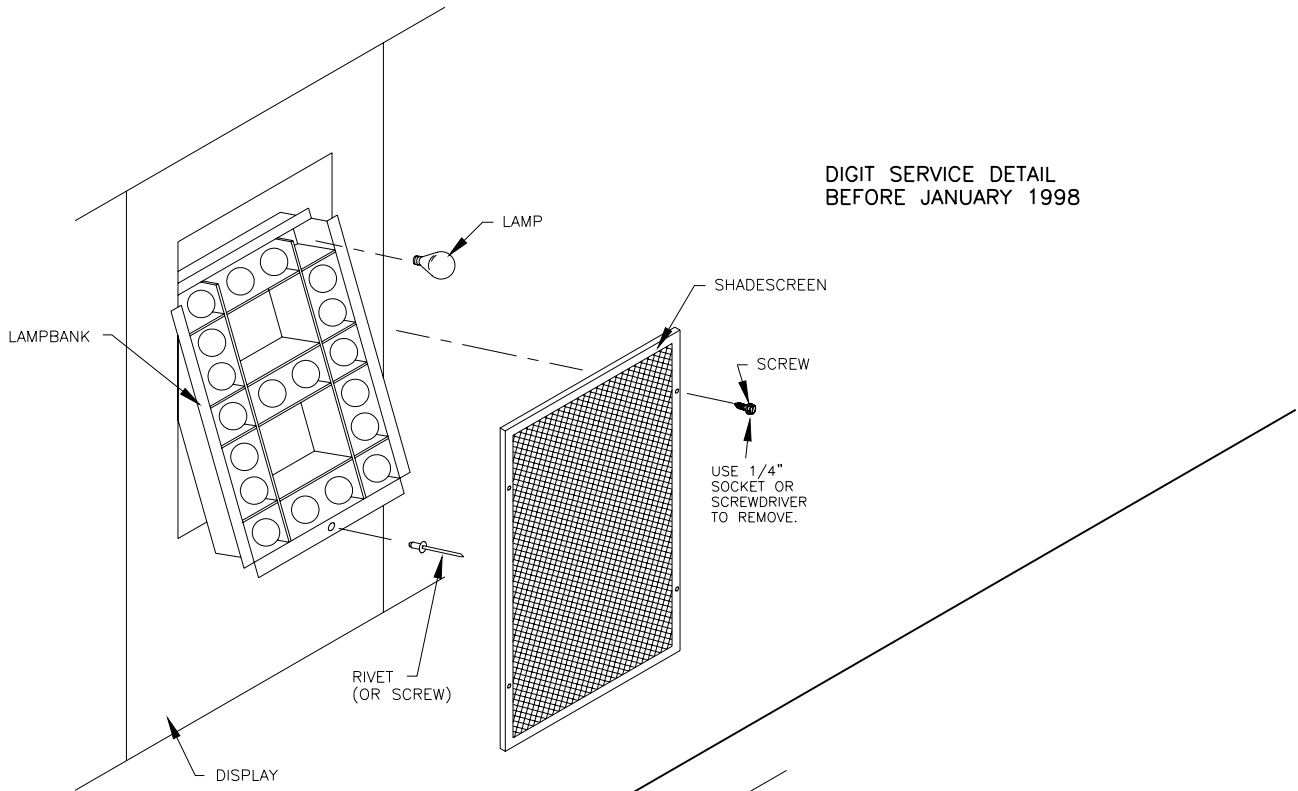
When returning defective items under the exchange program, please use the UPS Blue Return Tags found in the package containing the exchange unit sent from Daktronics. This will speed up the transaction and help avoid confusion when the part is returned to Daktronics. **The defective item must be returned 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

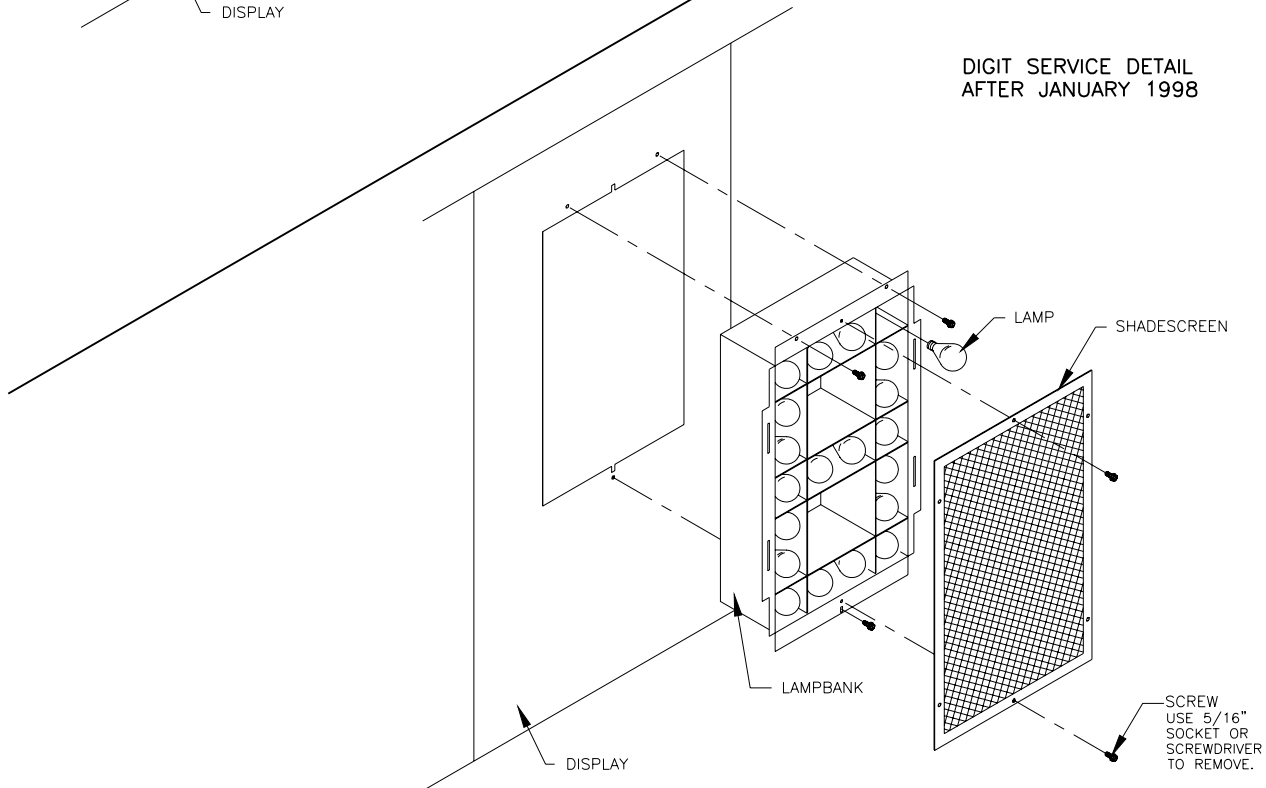
Phone: Toll Free: 1-800-843-9879
or 1-605-697-4400

Customer Service Fax: 1-605-697-4444

E-Mail: helpdesk@daktronics.com



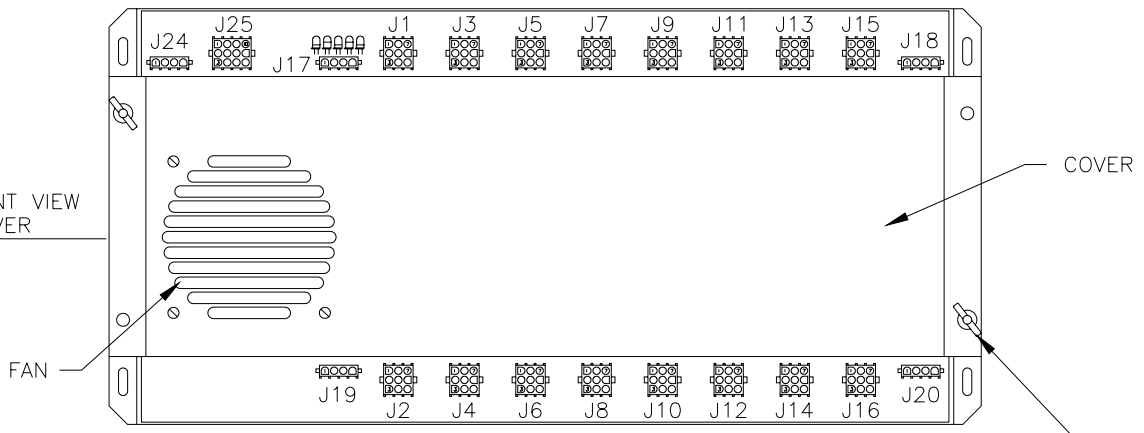
DIGIT SERVICE DETAIL
BEFORE JANUARY 1998



DIGIT SERVICE DETAIL
AFTER JANUARY 1998

DAKTRONICS, INC. BROOKINGS, SD 57006				
PROJ: OUTDOOR SCOREBOARDS				
TITLE: DIGIT SERVICE				
DES. BY:		DRAWN BY: TERRY P.		DATE: 31 JULY 86
2	10NOV97	ADDED DIGIT SERVICE AFTER JANUARY 1998 CHANGED SCALE FROM 1=10 TO 1=15	BDP	
1	5 MAR 91	CHANGED FROM "B" TO "A" SIZE DWG.	CF	
REV.	DATE	DESCRIPTION	BY	APPR.
REVISION		APPR. BY:	1064-E10A-27674	
		SCALE: 1=15		

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.

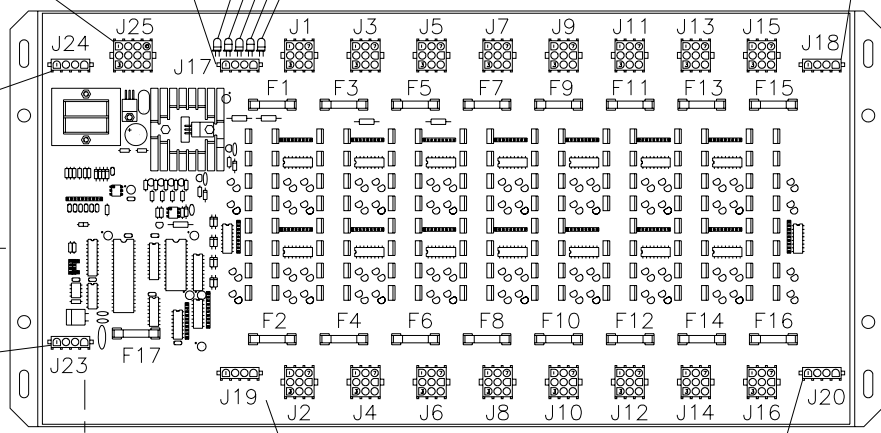
J1 - J16	
PIN	FUNCTION
1	SEG C
2	SEG B
3	SEG A
4	SEG F
5	SEG E
6	SEG D
7	COMMON
8	SEG H
9	SEG G

J18	
PIN	FUNCTION
1	LAMP NEUT
2	LAMP NEUT
3	LAMP HOT 1, 3, 5, 7
4	LAMP HOT 2, 4, 6, 8

- DS1-SW
- DS2-PWR
- DS3-RESET
- DS4-DATA
- DS5-RUN OR TEST

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

DRIVER FRONT VIEW WITH COVER REMOVED



J23	
PIN	FUNCTION
1	FAN SW HOT
2	N.C.
3	FAN HOT
4	NEUT

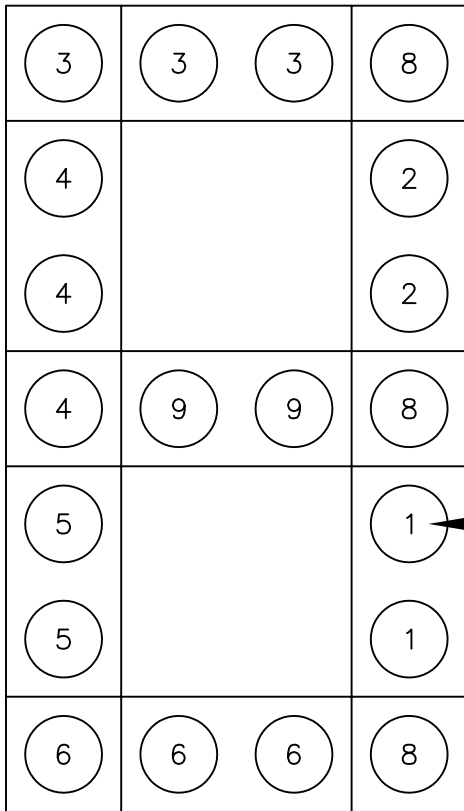
PLUG FROM FAN IN COVER CONNECTS TO J23

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

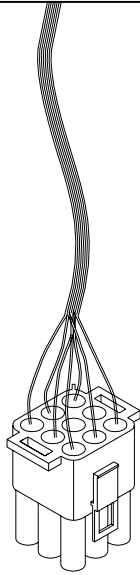
F1 THRU F16 ARE TYPE AGC-10, DAKTRONICS PART NUMBER F-1006. F17 IS TYPE AGC-1/2, DAKTRONICS PART NUMBER F-1000

DAKTRONICS, INC. BROOKINGS, SD 57006					
2		29 APR 97	ADDED TABLES OF PINS AND FUNCTIONS.	AVB	AVB
1		5 MAR 91	CHANGED FROM "B" TO "A" SIZE DWG.	CF	
REV.	DATE	DESCRIPTION		BY	APPR.
PROJ: MULTIPLEX CONTROLLERS			TITLE: LAMP DRIVER, 16 COL., W/FAN		
DES. BY: J LH		DRAWN BY: J LH		DATE: 20 FEB 89	
REVISION	APPR. BY:		1033-R04A-37070		
	SCALE: 1=5				



4 x 7 LAMP MATRIX DIGIT

CONNECTOR PIN NUMBER
WIRED TO THAT SEGMENT

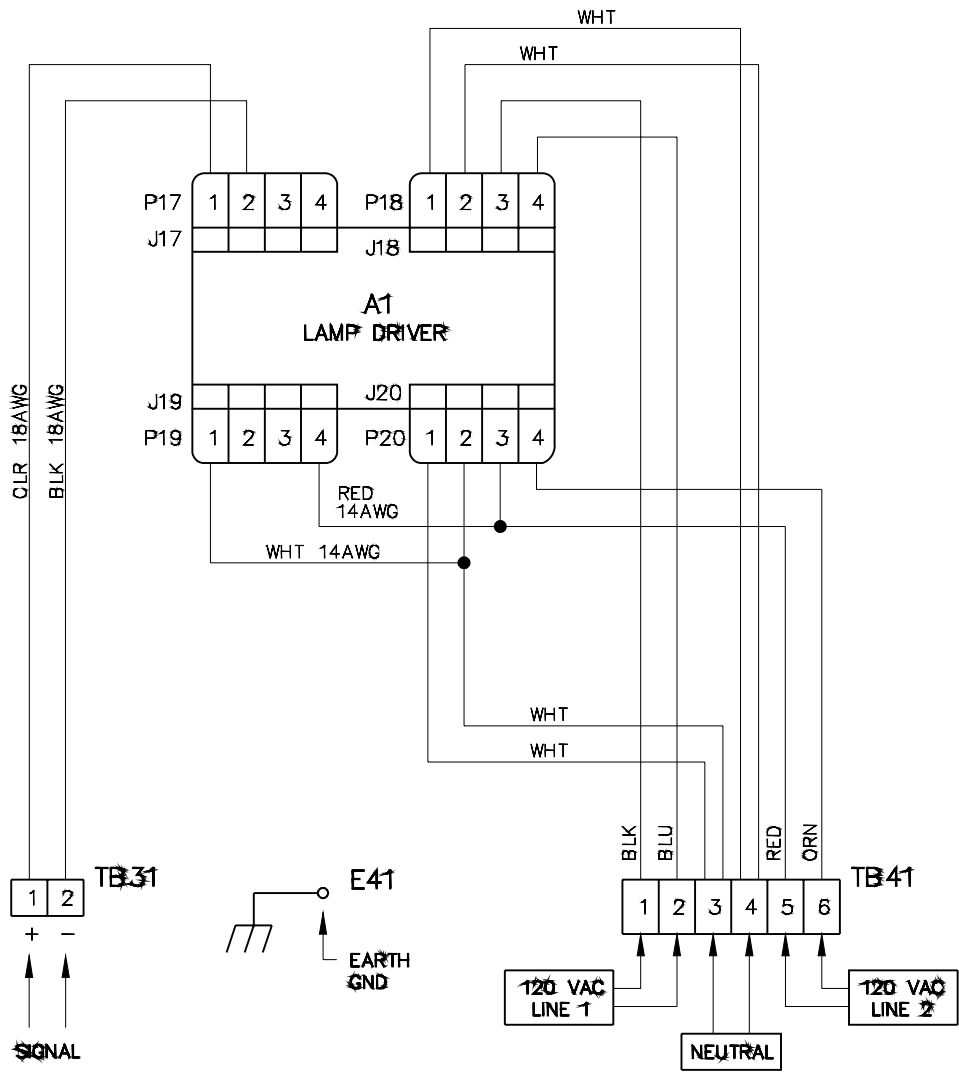


LAMP DRIVER
CONNECTOR

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

DAKTRONICS, INC. BROOKINGS, SD 57006		
PROJ: OUTDOOR SCOREBOARDS		
TITLE: SEGMENTS, 4 x 7 LAMP MATRIX DIGIT		
DES. BY:	DRAWN BY: AVB	DATE: 18 APR 89
REVISION	APPR. BY:	1064-R04A-37685
	SCALE: 1=1	

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



NOTES
 ALL WIRES ARE 12 AWG UNLESS OTHERWISE SPECIFIED.

REV.	DATE	DESCRIPTION	BY	APPR.
10	30APR98	CHANGED MODEL NUMBER FROM CH-21GP TO CH-1421-H & CH-1521-H	RDA	RDA
9	11 MAR 93	REMOVED LIST OF DISPLAY MODELS.	C FICK	
8	01 JUL 92	ADDED MODEL CH-1024V TO NOTE.	TWEBER	
7	18 JUN 92	ADDED CH-1421V, CH-1421GP, CH-1424WB AND CH-36-DS TO LIST OF MODELS.	C FICK	

DAKTRONICS, INC. BROOKINGS, SD 57006		
PROJ: CHRONDEK DISPLAYS		
TITLE: SCHEMATIC; PWR/SIG CH-1421-H & CH-1521-H		
DES. BY:	DRAWN BY: JLH	DATE: 19JUL89
REVISION	APPR. BY:	1081-R03A-38788
	SCALE: 1=1	